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METROPOLITAN TRANSIT AUTHORITY

SUMMARY OF OPERATING EXPENSES "ACCOUNT CONSOLIDATION" - YEAR BOOK 1954

IN CONNECTION WITH REVISION OF I.C.C. ACCOUNT BOOK

EFFECTIVE APRIL 1, 1954

<u>Charges</u>		<u>Charges</u>		<u>Consolidated To</u>	
<u>From</u>	<u>To</u>	<u>From</u>	<u>To</u>	<u>Account</u>	<u>Amount</u>
<u>1-1-54</u>	<u>3-31-54</u>	<u>4-1-54</u>	<u>12-31-54</u>		
<u>Account</u>	<u>Amount</u>	<u>Account</u>	<u>Amount</u>		
30101	7,218.33	30001	\$10,964.20	30001	\$18,182.53
30109	3,717.70	30002	5,875.98	30002	9,593.68
30134	382.68)	30003	8,674.32	30003	14,649.22
30135	5,592.22)	30004	3,160.32	30004	3,530.64
30132	370.32	30005	3,315.03	30005	4,283.19
30133	968.16	30011	97,481.78	30011	147,946.33
30106	50,464.55	30012	20,074.85	30012	27,190.39
30111	7,115.54	30013	66,020.72	30013	99,530.35
30134	277.12)	30014	6,263.01	30014	7,014.87
30125	33,232.51)	30015	34,397.54	30015	44,186.66
30132	751.86	30600	22,483.56	30600	29,109.92
30133	9,789.12	30021	122,608.09	30021	161,611.74
30107	6,626.36	30022	32,970.44	30022	45,657.80
30200	39,033.65	30023	56,595.15	30023	80,145.43
30202	12,687.36	30024	16,576.93	30024	20,993.28
30210	315.02)	30025	20,332.37	30025	28,651.37
30235	23,235.26)	30031	94,123.54	30031	120,739.64
30208	4,416.33	30032	20,860.64	30032	27,863.44
30209	8,319.00	30033	40,496.11	30033	55,833.90
30300	26,616.10	30034	16,447.18	30034	25,036.77
30302	7,002.80	30035	9,980.23	30035	15,171.32
30304	15,333.88)	30041	11,723.36	30041	17,504.27
30307	1.91)	30042	2,105.80	30042	2,741.56
30305	8,569.59	30043	1,565.72	30043	2,131.08
30306	5,191.09	30044	158.14	30044	1,095.40
30400	5,780.91	30045	1,404.29	30045	2,895.08
30402	635.76	30051	8,698.10	30051	13,628.13
30404	565.36	30052	1,600.88	30052	4,363.95
30405	937.26	30053	4,853.87	30053	6,785.01
30406	1,480.79	30054	287.96	30054	352.81
30500	4,930.03	30055	471.50	30055	605.23
30502	2,763.07	30101	10,636.26	30101	10,636.26
30508	1,931.14	30102	38,020.91	30102	38,020.91
30505	64.85	30111	1,749.26	30111	3,252.91
30506	133.73				
-	-				
-	-				
30991	1,503.65				

SUMMARY OF OPERATING EXPENSES "A" ACCOUNT CONSOLIDATION" - YEAR BOOK 1954

IN CONNECTION WITH REVISION OF I.C.C. ACCOUNT BOOK

EFFECTIVE APRIL 1, 1954

<u>Charges</u>		<u>Charges</u>		<u>Consolidated To</u>	
<u>From</u>	<u>To</u>	<u>From</u>	<u>To</u>	<u>Account</u>	<u>Amount</u>
<u>1-1-54</u>	<u>3-31-54</u>	<u>4-1-54</u>	<u>12-31-54</u>		
<u>Account</u>	<u>Amount</u>	<u>Account</u>	<u>Amount</u>		
30992	\$6,382.40)				
30994	834.25)	30112	\$7,268.17	30112	\$14,484.62
30891	2,292.15	30121	7,153.93	30121	9,446.08
30892	10,737.58)				
30894	1,978.65)	30122	25,635.48	30122	38,351.71
30261	210.64	30131	249.47	30131	460.11
30262	1,582.68)				
30264	315.42)	30132	419.06	30132	2,317.16
30271	2,262.94	30141	6,100.31	30141	8,363.25
30272	11,925.01)				
30274	1,351.31)	30142	33,109.11	30142	46,385.43
30151	5,651.93	30151	11,337.16	30151	16,989.09
30152	10,928.49)				
30154	2,223.11)	30152	62,287.79	30152	76,039.39
30591	6,166.60	30161	9,062.09	30161	15,228.69
30592	29,937.67)				
30594	4,471.41)	30162	44,624.99	30162	79,034.07
30561	430.34	30171	3,594.18	30171	4,024.52
30562	3,339.02)				
30564	1,270.46)	30172	19,971.31	30172	24,580.79
30891	1,592.85	30181	4,943.19	30181	6,536.04
30892	4,175.73)				
30894	769.47)	30182	9,731.73	30182	14,676.93
30251	3,834.95	30191	15,793.64	30191	19,628.59
30252	19,184.02)				
30254	3,546.88)	30192	64,602.69	30192	87,333.59
30351	211.56	30201	632.37	30201	843.93
30352	755.72)				
30354	89.62)	30202	2,694.59	30202	3,739.93
30361	2,914.30)				
30371	751.59)	30211	18,042.35	30211	21,708.24
30362	15,998.30)				
30364	2,198.75)				
30372	1,436.55)				
30374	431.75)	30212	69,006.90	30212	89,072.25
30220	44.50	30061	14,675.77	30061	14,720.27
30222	44.18)				
30221	441.35)				
30243	18.17)	30066	8,610.41	30066	9,114.11
30230	24,277.83)				
30245	2,342.93)	30071	70,550.82	30071	97,171.58

SUMMARY OF OPERATING EXPENSES "ACCOUNT CONSOLIDATION" - YEAR BOOK 1954

IN CONNECTION WITH REVISION OF I.C.C. ACCOUNT BOOK

EFFECTIVE APRIL 1, 1954

<u>Charges</u>		<u>Charges</u>		<u>Consolidated To</u>	
<u>From</u>	<u>To</u>	<u>From</u>	<u>To</u>	<u>Account</u>	<u>Amount</u>
<u>1-1-54</u>	<u>3-31-54</u>	<u>4-1-54</u>	<u>12-31-54</u>		
<u>Account</u>	<u>Amount</u>	<u>Account</u>	<u>Amount</u>		
30232	\$24,010.73)				
30246	\$1,595.20)				
30221	3,972.15)				
30243	163.57)	30076	\$73,865.51	30076	\$103,607.16
30240	160.80	-	-	30240	160.80
30242	4.26	-	-	30242	4.26
30153	3,715.51)				
30253	5,283.73)				
30263	202.93)				
30273	2,078.24)				
30353	577.67)				
30363	6,451.57)				
30373	3,060.58)				
30563	2,260.98)				
30593	4,961.99)				
30893	2,173.00)				
30993	1,017.97)	30500	79,044.62	30500	110,828.79
30223	225.43	30560	3,843.98	30560	4,069.41
30233	22,244.53)				
30247	1,732.51)	30570	53,827.98	30570	77,805.02
30244	87.02)				
30453	218.03)	30700	1,392.90	30700	1,697.95
-	-	33001	301.74	33001	301.74
33101	2,470.65)				
33102	290.90)	33002	3,287.02	33002	5,466.77
33114	403.93)				
33121	11,861.43)				
33123	2,960.35)	33003	23,527.54	33003	38,753.25
33100	1,585.57	33004	4,735.46	33004	6,321.03
-	-	33011	1,074.03	33011	1,074.03
33103	25,726.87	33012	72,203.02	33012	97,929.89
33110	839.06)				
33114	3,635.34)				
33118	5,026.52)				
33119	245.88)				
33120	209.98)	33013	18,291.59	33013	28,248.37
33100	5,020.99	33014	15,270.21	33014	20,291.20
33205	12.18)				
33306	.71)				
33404	281.56)	33800	1,569.30	33800	1,862.33
-	-	33021	3,939.25	33021	3,939.25
33201	8,972.49	33022	30,152.94	33022	39,125.43

SUMMARY OF OPERATING EXPENSES "ACCOUNT CONSOLIDATION" - YEAR BOOK 1954

IN CONNECTION WITH REVISION OF I.C.C. ACCOUNT BOOK

EFFECTIVE APRIL 1, 1954

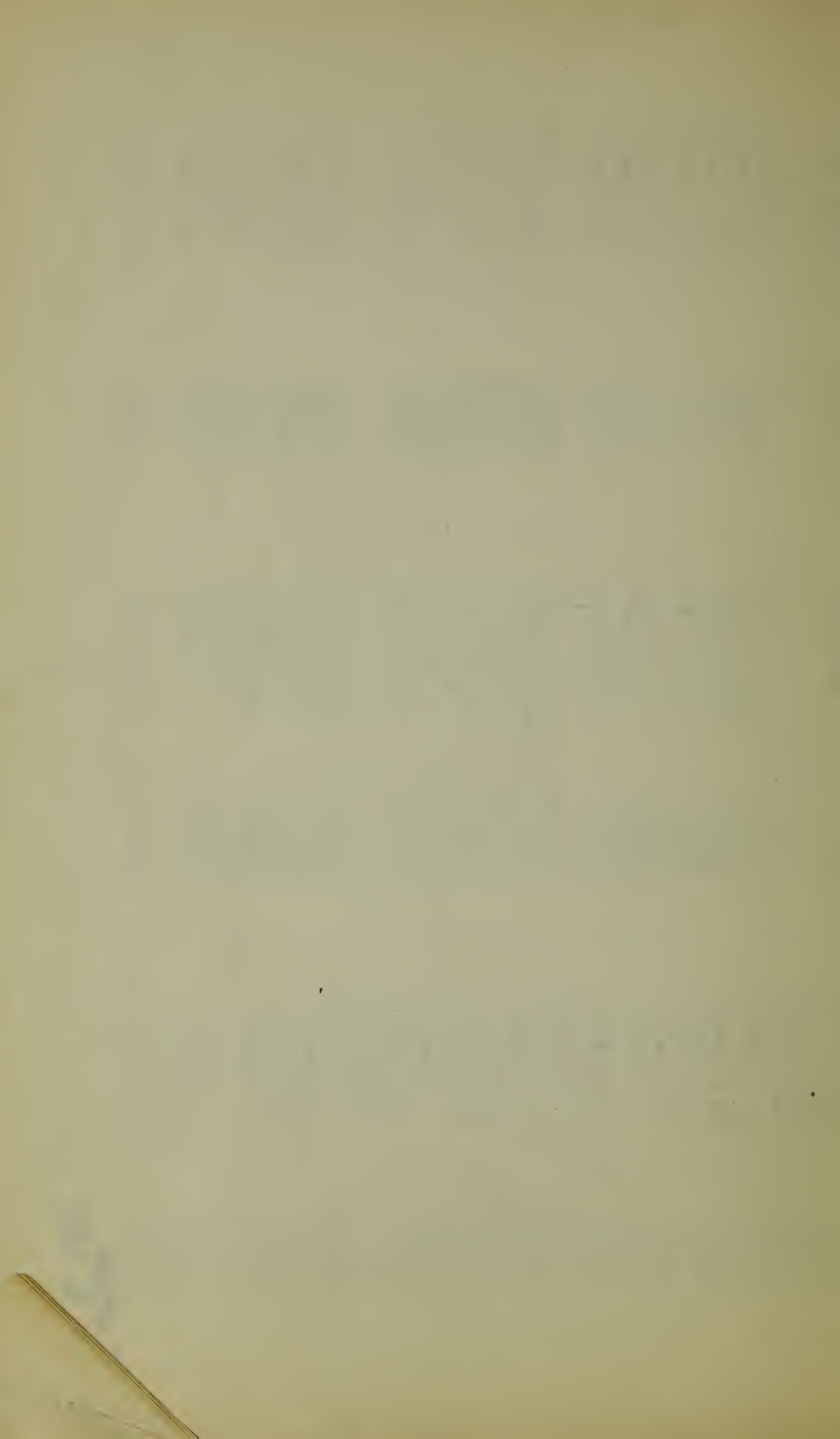
<u>Charges</u>		<u>Charges</u>		<u>Consolidated To</u>	
<u>From</u>	<u>To</u>	<u>From</u>	<u>To</u>	<u>Account</u>	<u>Amount</u>
<u>1-1-54</u>	<u>3-31-54</u>	<u>4-1-54</u>	<u>12-31-54</u>		
<u>Account</u>	<u>Amount</u>	<u>Account</u>	<u>Amount</u>		
33206	\$20,973.57	33023	54,505.09	33023	75,478.66
33200	6,404.10	33024	6,555.03	33024	12,909.13
-	-	33031	219.01	33031	219.01
33301	5,123.09	33032	15,278.29	33032	20,401.38
33307	16,855.31	33033	48,660.72	33033	65,516.03
33300	2,874.79	33034	7,657.71	33034	10,532.50
-	-	33041	637.84	33041	637.84
33401	481.84	33042	530.94	33042	1,012.78
33403	78.86	33043	1,569.42	33043	1,648.28
33400	504.64	33044	1,483.46	33044	1,988.10
-	-	33051	1,689.82	33051	1,689.82
33501	1,257.22	33052	3,420.32	33052	4,677.54
33504	184.16	33053	1,582.16	33053	1,766.32
33500	4,995.49	33054	13,025.58	33054	18,021.07
-	-	33061	4,072.25	33061	4,072.25
33630	210.62)				
33631	1,701.96)				
33635	45.84)				
33636	3,629.97)	33062	2,573.36	33062	8,161.77
33640	9.79)				
33641	23.42)				
33642	265.12)				
33646	107.01)				
33647	70.36)	33063	744.42	33063	1,220.12
33620	2,310.78	33064	4,684.64	33064	6,995.42
-	-	33071	6,134.23	33071	6,134.23
33630	315.94)				
33631	2,552.94)				
33635	68.75)				
33636	5,444.96)	33072	16,947.19	33072	25,329.78
33640	65.55)				
33641	156.76)				
33642	1,774.26)				
33646	716.14)				
33647	470.85)	33073	4,617.55	33073	7,801.11
33620	14,194.79	33074	34,580.28	33074	48,775.07
53755	28,330.29	53101)	22,830.27	53101)	
		53161)	38,766.11	53161)	89,926.67
53990	2,339.54	53111	2,965.78	53111	5,305.30
53500	8,857.35	53121)	11,058.41	53121)	
		53181)	7,480.22	53181)	27,395.98

STATEMENT OF OPERATING EXPENSES "ACCOUNT CONSOLIDATION" - YEAR BOOK 1954

IN CONNECTION WITH DIVISION OF I.C.C. ACCOUNT BOOK

EFFECTIVE APRIL 1, 1954

<u>Charges</u>		<u>Charges</u>		<u>Consolidated To</u>	
<u>From</u>	<u>To</u>	<u>From</u>	<u>To</u>	<u>Account</u>	<u>Amount</u>
1-1-54	3-31-54	4-1-54	12-31-54		
<u>Account</u>	<u>Amount</u>	<u>Account</u>	<u>Amount</u>		
53260	\$1,155.94	53131	\$535.88	53131	\$1,691.82
53300	8,346.54	53141	16,536.52	53141	24,883.06
53160	20,868.53	53151	53,526.71	53151	74,397.24
53760	11,924.02	53171	25,626.30	53171	37,550.32
53400	24,952.41	53191	61,118.56	53191	86,070.97
53229	1,146.17	53201	2,774.41	53201	3,920.58
53226	16,617.44)	53211	70,309.20	53211	95,475.72
53228	8,549.08)				
70100	21,675.21)				
70300	30,684.01)				
70400	42,840.72)				
70500	726.63)	70001	281,583.49	70001	377,510.06
70200	6,536.15	70002	41,426.40	70002	47,962.55
70700	13,140.00	70003	36,748.16	70003	49,888.16
70800	4,740.28	70004	16,016.99	70004	20,757.27
70900	3,421.97	70005	4,867.97	70005	8,289.94
70600	8,014.23	70007	8,235.01	70007	16,249.24
70121	10,833.86)				
70321	11,634.89)				
70521	960.55)	70021	74,600.09	70021	98,029.39
70221	6,933.98	70022	37,173.62	70022	44,107.60
70721	2,343.00	70023	11,847.49	70023	14,190.49
70821	1,666.34	70024	5,462.77	70024	7,149.11
70921	281.16	70025	2,279.58	70025	2,560.74
70621	2,330.85	70027	3,752.11	70027	6,082.96
70123	10,450.42)				
70323	9,834.85)	70031	58,739.90	70031	79,025.17
70223	10,565.50	70032	34,257.81	70032	44,823.31
70723	3,123.00	70033	9,771.99	70033	12,894.99
70823	1,665.20	70034	5,664.42	70034	7,349.62
70923	102.54	70035	553.49	70035	656.03
70623	2,503.91	70037	5,135.23	70037	7,639.14
70124	7,346.53)				
70324	4,506.02)	70041	37,553.69	70041	49,406.24
70224	1,402.49	70042	6,840.11	70042	8,242.60
70724	1,344.00	70043	4,311.47	70043	5,655.47
70824	659.04	70044	2,502.82	70044	3,161.86
70924	19.10	70045	449.33	70045	468.43
70624	618.48	70047	926.70	70047	1,545.18
70070	29,293.62)				
70080	23,751.01)	70061	200,998.92	70061	254,043.55



TWELFTH ANNUAL REPORT

OF THE

MASSACHUSETTS

HIGHWAY COMMISSION.

JANUARY, 1905.



BOSTON :

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,
18 POST OFFICE SQUARE.

1905.

APPROVED BY
THE STATE BOARD OF PUBLICATION.

Commonwealth of Massachusetts.

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled.

The undersigned commissioners, appointed under the provisions of chapter 476 of the Acts of 1893, entitled “An Act to provide for the appointment of a Highway Commission to improve the public roads, and to define its powers and duties,” and under the provisions of chapter 474 of the Acts of 1900, entitled “An Act relative to the Massachusetts Highway Commission,” herewith submit their twelfth annual report.

W. E. McCLINTOCK.

HAROLD PARKER.

JOHN H. MANNING.

BOSTON, MASS., Dec. 29, 1904.

ANNUAL REPORT

OF THE

MASSACHUSETTS HIGHWAY COMMISSION.

In accordance with the provisions of chapter 280 of the Acts of 1903, the commission has had the sum of \$450,000 for new work during the year.

Considerable sums allotted for expenditure during the year 1903 were actually disbursed during the year 1904, unavoidable delays having prevented the completion of several contracts.

Additional lay-outs were made during 1904, amounting to 321,203 feet (60.83 miles), bringing the grand total up to 2,987,748 feet (565.86 miles). The number of miles of road finished during the year was approximately 66, making a total of about 548 miles of completed State highway at the end of the year 1904. On most of the remaining 18 miles laid out but not completed the work is in various stages of progress, although in a few instances no work will be done under the contracts before the coming spring.

Since the passage of the "small town act," in 1900, 75 miles of road in the "small towns" have been improved.

MEETINGS OF THE COMMISSION.

The commission has held 88 meetings at its office in Boston during the past year, besides many others at different points in the State. The regular county hearings provided for in the statutes have generally been well attended.

CONTRACTS.

All work done by the commission must be done by contract, either with the town or city authorities, or, after due advertisement, with private contractors.

During the year 78 contracts for State highways were entered into, of which 28 were with town or city authorities and 50 with private individuals or corporations.

PETITIONS.

The total number of petitions for the location and construction of State highways up to the date of this report is 673. During the year 1904, 27 new petitions were received. These petitions cover altogether 1,710.86 miles of road, and they are from 283 towns and 27 cities. The petitions received during the past year cover 47.6 miles of road not previously petitioned for.

STREET RAILWAYS.

There are at the present time street railways operating on State roads in 113 different cities and towns. In 6 of these municipalities there are two different companies. The length of street railway track in the State on Sept. 30, 1904, according to the Massachusetts Railroad Commissioners, was 2,689.53 miles.

COUNTY ASSESSMENTS.

In accordance with the provisions of the statutes, the several counties in which State roads are built are required to repay to the State one-quarter of the amount expended during the year. The time of this repayment may, if desired, extend over six years from the date of the assessment; but in several instances, including some of those in which the amount of the assessment is greatest, the counties have preferred to pay the entire sum due at the end of each year. The amount assessed upon the counties during the year 1904 was \$132,818.25.

CONSTRUCTION.

No material change has been made during the past year in the method of building roads. The question of foundation for roads over clayey and other non-porous soils is receiving the careful consideration of the commission. The telfording foundation and centre V-shaped drains are being closely watched with reference to their behavior when the frost is coming out of the ground in the spring. On no State road

has there been a failure of well-laid telfording foundations; neither has there been a failure of any V-shaped drains since the building of the first one by the commission, three years ago. They are apparently as effective as the telfording foundation and side drains combined, and cost much less to build.

Most of the gravel roads are wearing satisfactorily, and the cost of repairs is small.

The Swampscott road, built of gravel in 1897, cannot be maintained economically with a gravel surface. The gravel is expensive, it is much affected by frost, and has poor wearing properties. This road will be surfaced with broken stone during the coming year.

CULVERTS AND BRIDGES.

Most of the culverts and short bridges built during the past year have been of reinforced concrete.

The following bridges of reinforced concrete have been built during the past year:—

Auburn,	Two beam bridges, spans of 24 and 16 feet.
Douglas,	A beam bridge over the Mumford River, of 22 feet span.
Fitchburg,	A beam bridge over Falula Brook, of 27 feet span.
Granville,	An arch bridge over Dickinson Brook, of 31 feet span, designed and specifications prepared by the commission, but built and paid for by the town of Granville.
Natick,	An arch of 10 feet span, extended and wing wall built.
Reading-North Reading,	A beam bridge over the Ipswich River at the Reading-North Reading boundary line, of 28 feet span.
Seekonk,	A beam bridge, of 12 feet span.
Shrewsbury,	A beam bridge, of 13 feet span.
Westminster,	A beam bridge, of 12 feet span.
Weymouth,	A beam bridge, of 14 feet span.

All culverts of 2 feet span or over have been built of reinforced concrete.

In 1901 two bridges were built over the Weweantit River, near the dividing line between the towns of Wareham and Marion. These bridges respectively consisted of four and five bents, of cast-iron piles, with four piles in each bent. An electric railway is laid over both bridges, at one side. There has been a gradual settlement of the piles, under the railway, the settlement beginning to show shortly after the bridges were opened to traffic. The cross-girders were this year jacked up to the original grade, and held there by cast-iron plates of the proper thickness. Careful watch will be kept of this bridge, and spur shores will be driven and secured to the different bents, if any further settlement takes place.

MAINTENANCE.

The law of 1900 requires a payment to the Commonwealth by each municipality in which State roads are built of the cost of maintenance of such roads, but not exceeding \$50 for each mile of State road in the respective municipalities. The total cost of repairs was \$51,896.16 in 1904; there will be paid back into the State treasury the sum of \$20,631.25, or about 39.76 per cent. of the total cost.

In certain parts of the State the maintenance of State roads is more economically and better done by contract than by day work. This is because of a local demand for labor which makes it practically impossible to get men or horses to work on the road during parts of the year when repairs are most needed.

The method of continuous repairs has been pursued during the present year, the intention of the commission being to have all parts of State roads in good condition at all times.

Nine contracts for maintenance are now in operation, covering 63.19 miles of road.

On roads where no contract exists, the work is done under the direction of the division engineer. All State roads are inspected sufficiently often to discover and remove defects in a reasonable time after they appear.

The Norton road, built under the "small town act," was resurfaced, as the original road was not able to withstand the traffic. The cost of this work was \$844.69, or 27.9 cents per square yard.

Short pieces of the roads in Worcester, Williamstown, West Springfield and Great Barrington, which had shown signs of weakness, were either ripped up and strengthened by using V-drains, or the drainage was improved by building side drains. The Milton road, over the marshes, having continued to settle, was raised to grade by the use of gravel and broken stone.

Resurfacing has been done on parts of the State roads in Worcester (at the Holden line), Holden, Westport, Fairhaven, Rehoboth, Williamstown, West Springfield, Lowell (Princeton Street), Gloucester, Shelburne, Deerfield (South) and Westminster. An analysis of the work on these roads is given in the accompanying table.

TABLE SHOWING EXTRAORDINARY REPAIRS ON MASSACHUSETTS STATE ROADS DURING 1904.

TOWN OR CITY.	Year of Lay-out.	Length (Feet).	Width (Feet).	Square Yards.	Tons of Stone.	Broken Stone per Square Yard per Year (Tons).	Cost.				Kind of Stone used.
							Totals.	Per Square Yard.	Per Square Yard per Year.	Broken Stone in Place, per Ton.	
Worcester,	1897	3,500	15	5,833	606	.0208	\$1,029 72	Cents. 29.0	Cents. 3.530	\$1 70	Local.
Holden,	1898	2,209	15	3,682	503	.0273	950 75	25.8	5.164	1 89	Local.
Westport,	1894	3,000	18	6,000	1,124	.0208	2,642 35	44.0	4.893	2 35	Trap.
Fairhaven,	1894-5	4,900	15	8,167	1,362	.0196	2,247 51	27.5	3.234	1 65	Local.
Rehoboth,*	1895-6	4,700	15	7,833	1,226	.0332	2,160 20	27.6	5.854	1 76	Local.
Williamstown,	1895-6-8	5,000	15	8,333	1,009	.0175	2,659 76	31.9	4.625	2 64	Trap.
West Springfield,	1895-6	6,190	18	12,380	1,316	.0135	2,157 42	17.4	2.218	1 64	Trap.
Lowell (south),	1897	4,057	18	8,114	1,157	.0238	2,179 13	26.9	4.476	1 88	Trap.
Gloucester,	1894	3,500	15	5,833	847	.0161	1,776 60	30.5	3.384	2 10	Trap.
Shelburne,	1894	3,962	18	7,924	965	.0135	2,004 92	25.3	2.811	2 08	Trap.
Deerfield (south),	1895	2,540	15	4,233	800	.0236	1,628 62	38.5	4.809	2 04	Trap.
Westminster,,	1895-6	4,000	15	6,667	701	.0140	1,574 41	23.6	3.160	2 25	Trap.
Totals,	-	9.01†	-	84,999	11,616	.0203	\$23,012 39	29.0	4.013	\$2 00	

* In resurfacing, the original thickness was increased to give added strength. The original road was of trap in Williamstown, West Springfield, Lowell and Deerfield; the rest were of local stone.

† Miles.

The use of a thin coating of sand is found to be the best method for preventing the stone from raveling in dry weather. Sand is now used for this purpose on practically all State roads that show a tendency to ravel.

- When the grade of Pipestave Hill, on the West Newbury road, was reduced, there was a heavy cut through clay, and a long, steep bank was left, which has ever been a source of annoyance and cost, by reason of wash-outs which filled the gutter and partly covered the road. Two years ago the commission experimented by covering this slope with a mattress of willow logs and limbs. The willow shoots have got a good start over the entire surface of the slope, and the washing is stopped.

The commission would recommend that there shall be appropriated out of the treasury of the Commonwealth the sum of \$60,000 for the proper maintenance of the State highways, subject to the provisions and limitations of section 16 of chapter 47 of the Revised Laws.

“SMALL TOWN” WORK.

The work of the commission, under the Acts of 1900 and 1901, relating to “small towns,” has been continued during the past year on very much the same lines as has been stated in previous reports.

It can be seen by any interested observer that the expenditure of the public funds in aiding and instructing the smaller towns has already been of vast practical value. The work thus done has not only excited great interest among the townspeople, as showing them how, with the material they have at hand, a much-improved highway can be secured without greater cost, but has actually accomplished it under their immediate observation. This actual demonstration is worth more to the practical countryman than all the theoretical claims that could possibly be made, and gets much nearer to the people themselves than the construction of more expensive and complete State highways does. This is so largely because the so-called “small town” work is more nearly what they can afford to build themselves. The commissioners have personally made themselves acquainted with the needs and desires of these

“small towns,” and have talked with the selectmen and road superintendents, and have aided them by their advice as to where and how the allotted sums should be spent. The engineers of the commission, who have become expert under their long experience, are of great service in solving the many problems that are presented.

On the whole, the effect of this act as it has been executed by the commission has been satisfactory, and much good to the travelling public has resulted; but in order to secure the best results entire co-operation of the towns and their officials should be secured, so that the work begun as referred to should be continued and improved on after the State engineers have finished their part. It too often happens that the work of repair and maintenance, in other parts of a town in which the State has rendered aid, is carried on in the old and wasteful manner, and this notwithstanding the acknowledged improvement of the commission's methods. It is, however, true that a great improvement is manifest. As has been suggested in a previous report, the aid that can be extended to any town is but 40 per cent. of its own annual expenditure for road purposes. It often happens that some small town, which expends on its highways but a few hundred dollars per year, is the very one that has the hardest hills and the worst roads, and that their roads are used, to a very large extent, by travellers from without its limits. It thus follows that where great public need for improved roads exists the hands of the commission are tied, and no material improvement can be secured. This defect in the operation of the law could be overcome if authority were given the commission to make greater outlay in such places than the 40 per cent. permitted by the law.

There have been received by the commission 299 petitions from 104 towns, and 213 allotments have been made to 88 towns, including 21 allotments which have been made to 13 towns under the provisions of the act governing towns of over \$1,000,000 valuation. The total allotments to towns of less than \$1,000,000 valuation has been \$120,500, and in towns of over \$1,000,000 valuation \$24,514.30.

LYNN ROAD.

On May 26, 1902, a special appropriation of \$100,000 was made for building a road outside of the Boston, Revere Beach & Lynn Railroad, between the Saugus River and Commercial Street in the city of Lynn.

The entire length of this proposed road is laid over salt flats and marshes, the fill varying from 5 to 13 feet.

The work of building the embankment to grade 12 was advertised, and bids were opened on Nov. 13, 1903. There were nine bids received. The contract was awarded to the lowest bidder, Mr. Fred E. Ellis of Melrose, the contract price being \$56,725.

The estimated quantities in this work are as follows, viz. : —

Cubic yards of earth fill,	76,500
Cubic yards of rock embankment,	15,000
Square yards of riprap,	1,600
Portland cement concrete culverts,	4
Feet of pipe drains,	175

Work was begun by Mr. Ellis on April 4, 1904, and has been pushed as rapidly as the difficult conditions would permit. There are in place 34,500 cubic yards of earth, 9,150 cubic yards of rock and 1,130 square yards of riprap. Three of the four culverts have been built. It is hoped that the work under this contract will be finished by June 1, 1905. The remainder of the work will soon be advertised, and, barring accidents, the road finished in the latter part of the coming year.

The only interesting feature of the planning of this road is the rock embankment on each side, laid on a slope of one to one, and ending at grade 12 ; this takes the place of a riprap. The space between the rock embankments was filled in with sand and other soil from the adjacent flats. Part of this sand was thrown up by dredgers, using buckets of the "Orange peel" type, but most of it was dragged in by a scoop bucket, attached to cables, worked by a 50 horse-power engine. The cables were run through pulleys made fast to wooden towers, one on the filled bank, the other 700 feet out on the flats.

After the sand was filled in behind the rock embankment, it was found that near the top of the wall it was moved by the swash of the water at high tide. This was obviated by filling in behind the top of the wall with stone chips, to give a thickness of wall and chips of 4 feet.

STEAM ROAD ROLLERS AND STONE-CRUSHING MACHINERY.

The commission has under its control 17 steam rollers and two portable stone-crushing plants. These were purchased primarily for the use of small towns which have made appropriations for building roads, but own no road machinery.

The steam rollers were used 660 days on town work in 24 different towns. All requests of this character were granted. They were also used 270 days on State highway repair work, on 32 different roads; 374½ days by towns contracting for building State roads, including the "small town" roads; and 181 days by private contractors, on State road contracts. The total number of days' work during the year was 1,485½, — an average of 87.38 days for each roller.

The total cost for maintenance for the year was \$1,877.76. The average cost of keeping the rollers in repair was \$1.26 for each day they were used.

The request from town officers has been about the same as in previous years. Good work is being done, and work which could not well be done by the towns in any other way.

With heavy machinery, such as this, subjected to hard usage, which is unavoidable, the cost of repairs must of necessity be large. Three of the rollers, Nos. 5, 8 and 10, purchased in 1896 and 1897, will need to be sent to the shop this winter for thorough repairs. The estimated cost of these repairs is \$2,100.

One of the portable crushers has been located in the town of Sandisfield, where it has done good service; the other was used in Carver and Hanson. The stone for 1.72 miles of stone roads was crushed by these machines, a total of about 3,500 tons. The entire cost of repairs and for moving has been borne by the towns using the crushers.

SURVEYS AND ENGINEERING OFFICE WORK.

During the year surveys for preliminary studies, estimates and lay-outs were made in 37 towns, — a total length of 49.62 miles ; and grade stakes for construction work set in 100 towns for a length of 89.04 miles, part of these being for unfinished work in 1903.

Final surveys were made in 66 towns, — a total length of 69.36 miles. Surveys for “small town” work were made in 21 towns, — a total length of 7.76 miles ; and about 6.35 miles of miscellaneous surveys were made for roads to be constructed by towns.

Plans, profiles and cross-sections were plotted of surveys in 45 towns, representing a length of 50.19 miles.

Lay-out plans have been made of roads in 64 towns, of a total approximate length of 60.90 miles. Plans to accompany decrees for street railway locations on State roads, and for provisional locations, have been made in 10 towns. Plans and profiles have been made for work under the “small town” act in 21 towns.

Preliminary estimates in 96 towns, representing 93.77 miles, have been made ; and also final estimates in 69 towns, representing 72.01 miles.

Bridge plans have been made for all the bridges constructed during the year ; and also studies and plans have been made for an arch bridge over the Assabet River in Concord, an arch bridge over the Three Mile River at the Taunton-Dighton boundary line, and a beam bridge over Walker Brook in Becket, all of reinforced concrete.

The surveys of roads to be built by the towns, and paid for out of their own funds, constitute no small part of the year's work of the survey parties. The surveying and supervising the building of these roads is, next to the building of State roads, the most important work of the commission. In this way town officers get the full advantage of the experience of the commission and its engineers.

TREE PLANTING.

Although authorized by the statute, the commission has not, until the past year, taken up the problem of tree planting along the State roads. The question has been discussed during previous years, but for various reasons it was not considered expedient to begin any extended work of this kind until the continuous reaches of State roads had been extended to such lengths that a consistent method or scheme could be reasonably developed. In the opinion of the commission, the State highways, extending in places for many miles unbroken, are now of sufficient length to warrant it in adopting a general plan, which can be applied as the roads are built. Under the direction of the commission, a report showing the land along the State roads that was available or desirable for the planting of trees, the character of the soil in all such places, and whether upland or meadow, has been made by the division engineers. This report, with the plans in possession of the Board, enabled it to decide that about 4,000 trees could be economically set out during the year. It was determined, by an investigation of the conditions prevailing, that a certain number each of several kinds of trees, maple, elm, oak, poplar, etc., would be needed to carry out the plan in view. Proposals for bids to furnish the whole number were submitted to many of the nurseries. The contract was awarded to Ellwanger & Barry of Rochester, N. Y., the lowest bidder. Mr. Edward W. Breed of Clinton was appointed by the Board to superintend the planting and to care for and inspect all trees, and to establish a nursery into which they were to be placed until ready for final setting. Fourteen hundred and twenty-five of them were set out in the spring, and 2,219 this autumn; 159, the balance, still remain in the nursery.

In the placing of these trees the Board has taken into consideration not only the natural conditions of soil and locality, but has had due regard to the character of the roadside surroundings, so that the trees in all places should be in harmony therewith. Each tree has been inspected, and, if imperfect, rejected. The size of each variety of tree was regulated by the contract, in order that only such trees as would bear trans-

planting safely and with the best results should be furnished. The total number of trees planted during the year has been 3,907 : 1,737 maples, sugar, Norway and white ; 538 oak, red, scarlet, white and pin ; 1,000 elm ; 207 poplar ; some white pine and locust.

The total cost of these trees in their final location, including transplanting in the temporary nursery and replanting on the roadside, care, manure, superintendence and labor, has been \$4,348.59, or an average of \$1.14 per tree. The work has been so carefully done that the percentage of loss has been very small.

Although the average cost has been \$1.14, as stated, some trees have cost very much more than others. In dry, gravelly or sandy soil considerable cost has been entailed in bringing in loam and fertilizers sufficient to insure their life and future growth. This has been especially true of most of the Cape roads ; and, in addition, most of the trees exposed to continuous winds from one direction have had to be supported by wooden guards.

The Board feels that the cost of planting roadside trees, and in some places native shrubs and vines, is a wise outlay of State funds, as not only do they add to the beauty and interest of the State highways, but they materially protect and preserve them.

The Appendix contains the report of Mr. Breed.

Under the existing laws, the responsibility for the care of shade trees located within the limits of the State highways is not definitely established, and the commission believes that it does not possess sufficient authority to protect them from mutilation or destruction. The present law appears to be particularly defective, when it is understood that the trees planted by and at the expense of the Commonwealth are under the control of local tree wardens, who are not officers of the Commonwealth.

The commission recommends the passage of an act to remedy the defects in the law, and respectfully submits a draft of a bill, which may be found under the caption " New Legislation."

AUTOMOBILE REGISTRATION.

Under the provisions of chapter 473 of the Acts of 1903, it became the duty of the Massachusetts Highway Commission to register all automobiles and other motor vehicles in this State, and to license the operators of such machines.

To Jan. 1, 1905, 3,772 automobiles and 489 motor cycles were registered, and 80 manufacturers or dealers received certificates of registration. There were 3,585 ordinary operators and 1,335 professional chauffeurs licensed.

The receipts for fees were as follows, for 1904:—

For 4,261 certificates of registration,	at \$2 00	\$8,522 00
80 certificates of registration for manufacturers or dealers,	at 10 00	800 00
3,585 ordinary licenses to operate,	at 2 00	7,170 00
1,335 professional chauffeurs' licenses,	at 2 00	2,670 00
Total,		<hr/> \$19,162 00

Under the provisions of this act, the Secretary has deposited the sum of \$19,166 in the State treasury, and taken proper receipts therefor.

The excess of \$4 is due to the fact that two applicants for licenses (James W. Hillyard of New York City, and John J. Brennan of Salem) have not completed their applications; the license fees, however, were retained and deposited.

In addition to the number of private operators' licenses given above, one license (No. 4158) was issued in April, 1904, to Carroll Doubleday, of Winchester (application No. 3205). The application for this license was received in 1903, but was returned for correction, the fee of \$2 being retained and deposited.

The act of 1903 that regulates the use of motor vehicles on the highways of the Commonwealth designates the Massachusetts Highway Commission as the court for suspending or revoking certificates for automobiles and licenses for operators. The commission has tried 16 cases under this act. All of the cases up to the present time were for simply speeding.

The treatment of this matter by the different municipalities has a wide range. Some of the towns accept the speed limit

of the act, others fix their own limit of speed ; some of these last named towns specify 4 or 6 miles an hour as the maximum speed. Most of the towns make no apparent effort to enforce the speed law, while others are quite active in this direction. Many of the towns that attempt to enforce the speed law do the work spasmodically, during five days of the week paying no special attention to it, but insist upon a close adherence to the law on Saturdays and Sundays.

The inequality of the local speed laws, and the still greater inequality in enforcing the law, tend to bring the whole law into contempt. Well-ordered, law-abiding men, owning and operating automobiles, are anxious to regulate their use, so as to insure the safety of other users of the highways ; but there is a grave question in their minds whether the present law will accomplish this end.

From many conferences with automobilists, with those who drive horses, and by personal observation, the commission believes that there are places and times when the speed as at present fixed is either too great or too small. There are certain narrow streets, within fire districts, and also certain crooked outlying roads, where 10 miles an hour is a dangerous rate of speed ; there are other roads, straight and clear of obstruction, with no houses or cross roads, where the speed may safely be in excess of 15 miles an hour. No general law can cover these cases ; each case should be carefully considered by itself.

There are some absurdities resulting from local regulation, which seem to bring discredit upon this method. Four miles an hour, over a State road where there are few houses and no cross roads, is neither necessary nor reasonable ; the order is not enforced by the town officers, and its existence is harmful.

The commission believes that the power to vary the speeds from what they are in the present act should be given to some central authority ; no change to be made except after a hearing.

The rates of speed, when different from those indicated in the act, should be plainly displayed on sign boards at each end of the road affected, and at such other points as may be needed. These sign boards should be placed by the person or persons charged with fixing the speed, the cost to the State to be repaid out of the automobile license receipts.

With the law amended in the manner suggested, the commission believes that it can be executed in a proper manner.

If the commission is to continue to sit as a court, with power to suspend or revoke certificates of registration and licenses to operate, it recommends that it be given power to summon witnesses and administer oaths.

Section 6 of the present act, dealing with foreign machines, is contradictory and ineffective. This section permits automobiles or motor cycles, owned by non-residents of this State and driven by a person residing and licensed in some other State, to be operated on the roads and highways of this State, subject to the speed limitations of section 8, and to any local regulations permitted under section 14, and to such further regulations as the Highway Commission may make. In fact, foreign machines are in many instances driven over Massachusetts roads with four or more number plates besides the number plate furnished by the commission. It is practically impossible to identify a machine under these conditions. If a foreign machine is persistently made to break the speed law, there is no way of punishing other than by fining the operator. The operator not being required to take out a license, or the owner a certificate of registration, no complaint made to the commission can be effectively acted upon.

The commission believes that the only effective way to treat foreign machines is to require them to carry only Massachusetts numbers, and to remove all other number plates; in other words they should be treated exactly as other machines are treated.

The commission recommends the repeal of section 6. The commission also recommends that the last sentence of section 6 be added to section 5, believing that this was the intent of the Legislature at the time of the passage of the act.

A draft of a bill containing the changes in the law recommended will be found under the caption "New Legislation."

NEW LEGISLATION.

The commission recommends the passage of the following bills, which have been discussed in the foregoing under their proper headings : —

AN ACT RELATIVE TO SHADE TREES ON THE PUBLIC WAYS.

Be it enacted, etc., as follows :

SECTION 1. The highway commission shall have the entire care and control of all shade trees within the limits of state highways, and may trim, cut or remove such trees, or license the trimming, cutting or removal of such trees.

SECTION 2. Section one hundred and four of chapter two hundred and eight of Revised Laws is hereby amended by adding after the word "town," in the sixth line thereof, the words:—or from the highway commission in the case of a state highway,—so as to read as follows:—*Section 104.* Whoever affixes to a tree in a public way or place a playbill, picture, announcement, notice, advertisement or other thing, whether in writing or otherwise, or cuts, paints or marks such tree, except for the purpose of protecting it and under a written permit from the officer having the charge of such trees in a city or from the tree warden in a town or from the highway commission in the case of a state highway, shall be punished by a fine of not more than fifty dollars for each offence. The tree warden shall enforce the provisions of this and the preceding two sections in towns.

SECTION 3. Whoever without authority cuts down or removes a shade tree within the limits of a state highway, or maliciously injures, defaces or destroys any such tree shall forfeit not less than five nor more than one hundred dollars to the use of the commonwealth.

SECTION 4. This act shall take effect upon its passage.

AN ACT RELATING TO THE REGISTRATION OF AUTOMOBILES AND MOTOR CYCLES AND TO THE LICENSING OF THE OPERATORS THEREOF.

Be it enacted, etc., as follows :

SECTION 1. In the administration of the law providing for registering automobiles and motor cycles and for licensing operators thereof, any member of the Massachusetts highway commission or its secretary may summon witnesses in behalf of the Commonwealth and may administer oaths and take testimony; and any person who wilfully swears or affirms falsely in regard to any matter or thing respecting which such oath or affirmation is required by said commission shall be deemed guilty of perjury. The fees of such witnesses for attendance and travel shall be the same as for witnesses before the superior court, and shall be paid from the treasury of the Commonwealth, and a certificate of the commission shall be filed with the auditor; and any justice of the superior court, either in term time or in vacation, upon application of the commission, may, in his dis-

cretion, compel the attendance of such witnesses and the giving of testimony before the commission in the same manner and to the same extent as before said court.

SECTION 2. Section one of chapter four hundred and seventy-three of the acts of the year nineteen hundred and three is hereby amended by striking out the last sentence thereof, and substituting in place thereof the following:— Upon the transfer of ownership of any automobile or motor cycle its registration shall expire, and the person in whose name such vehicle is registered shall immediately return the certificate of registration to the highway commission, with a written notice containing the date of the transfer of ownership, and the name, place of residence and address of the new owner. No number or number plate other than those prescribed by the Massachusetts highway commission in its certificates of registration shall be displayed on any automobile or motor cycle operated in this Commonwealth, — so that said section will read as follows: — *Section 1.* All automobiles and motor cycles shall be registered by the owner or person in control thereof in accordance with the provisions of this act. Application for such registration may be made, by mail or otherwise, to the Massachusetts highway commission or any agent thereof designated for this purpose, upon blanks prepared under its authority. The application shall, in addition to such other particulars as may be required by said commission, contain a statement of the name, place of residence and address of the applicant, with a brief description of the automobile or motor cycle, including the name of the maker, the number, if any, affixed by the maker, the character of the motor power, and the amount of such motor power stated in figures of horse power; and with such application shall be deposited a registration fee of two dollars. The said commission or its duly authorized agent shall then register, in a book to be kept for the purpose, the automobile or motor cycle described in the application, giving to such automobile or motor cycle a distinguishing number or other mark, and shall thereupon issue to the applicant a certificate of registration. Said certificate shall contain the name, place of residence and address of the applicant and the registered number or mark, shall prescribe the manner in which said registered number or mark shall be inscribed or displayed upon the automobile or motor cycle, and shall be in such form and contain such further provisions as the commission may determine. A proper record of all applications and of all certificates issued shall be kept by the commission at its main office, and shall be open to the inspection of any person during reasonable business hours. The certificate of registration shall always be carried in some easily accessible place in the automobile or motor cycle described therein. Upon the transfer

of ownership of any automobile or motor cycle its registration shall expire, and the person in whose name such vehicle is registered shall immediately return the certificate of registration to the highway commission, with a written notice containing the date of the transfer of ownership, and the name, place of residence and address of the new owner. No number or number plate other than those prescribed by the Massachusetts highway commission in its certificates of registration shall be displayed on any automobile or motor cycle operated in this Commonwealth.

SECTION 3. Section 2 of chapter four hundred and seventy-three of the acts of the year nineteen hundred and three is hereby amended by striking out the word "license," in the last sentence thereof, and substituting in place thereof the words : — certificate of registration, — so that said section will read as follows : — *Section 2.* Every manufacturer of or dealer in automobiles or motor cycles may, instead of registering each automobile or motor cycle owned or controlled by him, make application upon a blank provided by said commission for a general distinguishing number or mark, and said commission may, if satisfied of the facts stated in said application, grant said application, and issue to the applicant a certificate of registration containing the name, place of residence and address of the applicant, and the general distinguishing number or mark assigned to him, and made in such form and containing such further provisions as said commission may determine; and all automobiles and motor cycles owned or controlled by such manufacturer or dealer shall, until sold or let for hire or loaned for a period of more than five successive days, be regarded as registered under such general distinguishing number or mark. The fee for every such certificate of registration shall be ten dollars.

SECTION 4. Section four of chapter four hundred and seventy-three of the acts of the year nineteen hundred and three is hereby amended by adding at the end of said section the following : — " The provisions of this section shall not prevent the operation of automobiles by unlicensed persons if riding with or accompanied by a licensed chauffeur or operator. The operator's license shall always be carried by the licensee when he is operating an automobile or motor cycle, — so that said section will read as follows : — *Section 4.* Licenses for operating automobiles and motor cycles shall be issued by the Massachusetts highway commission or duly authorized agents thereof. Application shall be made upon blanks prepared by the commission for this purpose, and the licenses issued shall be in such form and shall contain such provisions as said commission may determine. To each licensee shall be assigned some distinguishing number or mark, and a proper record of all applications for license and of all licenses

issued shall be kept by the commission at its main office, and shall be open to the inspection of any person during reasonable business hours. Each license shall state the name, place of residence and address of the licensee and the distinguishing number or mark assigned to him. Special licenses for operating automobiles or motor cycles for hire shall be issued by the commission, but no such license shall be issued until the commission or its authorized agent shall have satisfied itself or himself that the applicant is a proper person to receive it. Such licenses shall be granted for one year only. The fee for each license to operate shall be two dollars. All fees shall be deposited at the time of making the application. The commission may at any time suspend or revoke any license for any misconduct of the licensee. Before a license to operate is granted, the applicant shall pass such examination as to his qualifications as may be required by the state highway commission. The provisions of this section shall not prevent the operation of automobiles by unlicensed persons if riding with or accompanied by a licensed chauffeur or operator. The operator's license shall always be carried by the licensee when he is operating an automobile or motor cycle.

SECTION 5. Section eight of chapter four hundred and seventy-three of the acts of the year nineteen hundred and three is hereby amended as follows, by inserting at the beginning of said section the following words:— Except as otherwise herein provided; and by adding at the end of said section the following:— *provided, however,* that should the Massachusetts highway commission determine, on the petition of any interested party, after a public hearing, that on any particular way a speed greater than as hereinbefore specified may be permitted with safety, or that a lesser speed than as hereinbefore specified should be required, said commission may make such special regulations as may appear to it to be necessary. No such special regulation shall be effective unless notice of the same is posted conspicuously, by or under the direction of the Massachusetts highway commission, on sign boards at the points where any road affected thereby joins other roads. The cost of said sign boards and the expenses in connection with their erection and maintenance shall be paid out of the appropriation for expenses in connection with the registration of automobiles and motor cycles and the licensing of operators thereof. Nothing herein contained shall be so construed as to affect the rights of boards of park commissioners, as authorized by law,—so that said section will read as follows:— *Section 8.* Except as otherwise herein provided, no automobile or motor cycle shall be run on any public way or private way laid out under the authority of statute outside the limits of a city or the thickly settled or business part of a town or fire district at a speed exceeding fifteen

miles an hour, or within a city or the thickly settled or business part of a town or fire district at a speed exceeding ten miles an hour. Upon approaching a crossing of intersecting ways, also in traversing a crossing or intersection, and in going around a corner, or a curve in the highway, every person operating an automobile or motor cycle shall run it at a rate of speed less than that hereinbefore specified and at no time greater than is reasonable and proper, having regard to traffic and the use of the way and the safety of the public, and in no event exceeding eight miles an hour: *provided, however*, that should the Massachusetts highway commission determine, on the petition of any interested party, after a public hearing, that on any particular way a speed greater than as hereinbefore specified may be permitted with safety, or that a lesser speed than as hereinbefore specified should be required, said commission may make such special regulations as may appear to it to be necessary. No such special regulation shall be effective unless notice of the same is posted conspicuously, by or under the direction of the Massachusetts highway commission, on sign boards at the points where any road affected thereby joins other roads. The cost of said sign boards and the expenses in connection with their erection and maintenance shall be paid out of the appropriation for expenses in connection with the registration of automobiles and motor cycles and the licensing of operators thereof. Nothing herein contained shall be so construed as to affect the rights of boards of park commissioners, as authorized by law.

SECTION 6. Section nine of chapter four hundred and seventy-three of the acts of the year nineteen hundred and three is hereby amended by inserting between the words "license" and "issued," in the third line thereof, the words:—or certificate; and by striking out the word "section," in the third and fourth lines of said section, and substituting therefor the words:—sections two and,—so that said section will read as follows:—*Section 9.* The commission may, after due hearing, suspend or revoke a certificate issued under section one of this act, or the license or certificate issued to any person under sections two and four of this act, for any cause which it may deem sufficient; and any person convicted of violating any provision of this act shall be punished by a fine not exceeding twenty-five dollars for a first offence, and not exceeding fifty dollars for second and subsequent offences. Any person convicted of operating, or causing or permitting any other person to operate, an automobile or motor cycle after a revocation or suspension of the certificate or license granted under this act for such vehicle, shall be punished by a fine not exceeding one hundred dollars, or by imprisonment for a term of ten days, or by both such fine and imprisonment.

SECTION 7. Sections six and fourteen of chapter four hundred and seventy-three of the acts of the year nineteen hundred and three are hereby repealed.

SECTION 8. This act shall take effect upon its passage.

ENGINEERS AND CLERKS.

The engineering work of the commission during the past year has been under the general direction of Mr. Austin B. Fletcher, secretary of the Board.

Messrs. Andrew M. Lovis and Sidney A. Parsons, first and second assistant engineers, respectively, have had charge of the surveying parties and of the office engineering work.

Messrs. William R. Farrington, John A. Johnston, Frank H. Joyner, Franklin C. Pillsbury and Warren B. Wheeler, division engineers, have had charge of construction work in the field.

The following men have been employed as resident engineers of the first class: Messrs. Albert D. Dadley, Lyman L. Gerry, Howard C. Holden, Charles H. Howes, Everell J. Nichols and George R. Winslow.

The following men have been employed as resident engineers of the second class: George R. Brown, Percival H. Everett, Albert W. Gray (3 months), Frank H. Morris, Sidney G. Packard (3 months), Hiram D. Phillips, C. Alden Welton and David H. Winslow.

The following men have been employed as resident engineers of the third class: Messrs. Ernest F. Ayres (8 months), George W. Bagge (11 months), David H. Dickinson (9½ months), Martin W. Fisher (8 months), William P. Hammersley (8 months), Stephen Litchfield, Jr. (9 months), George D. Marshall (9 months), Charles H. Norton, Carl A. Raymond (6 months), George W. Sanborn (8½ months), William G. Addis (6 months), Wilbur T. Wilson (5 months) and Dean C. Warren (3 months).

The following men have been employed on survey work: chiefs of party: Messrs. Emory N. Colburn, Harold R. Starbird and Fred M. Stuart. Rodmen: Messrs. Abram N. Ashline (7½ months), William G. Burns, Warren H. Small (5 months), Henry W. Brown (8 months), Arthur Weston (6

months), Arthur P. Rice (4 months) and Emory S. Bingham (6 months).

The following men have been employed as draughtsmen and office assistants: Messrs. C. Ridgely Brown, Fred H. Cunningham, Arthur Larrabee, Louis T. C. Loring, James H. Taylor, Charles S. Tinkham (9 months), Robert A. Vesper (9 months), William N. Wade, Nathan B. Wilbur (6 months) and Arthur L. Southworth (9½ months).

Mr. Elting J. O'Hara has had charge of the work in the automobile department, under the direction of the secretary; and the following clerks have also been employed in that department during the past year: Carrie E. Batchelder (1 month, 22 days), Chartie W. Brown (3 months, 23 days), Elizabeth M. Connell (7 months, 24 days), John J. Marshall (4 months), Ida L. Poor (1 month, 27 days), Lillian J. Stearns (8 months), Florence L. Tufts (2 months, 13 days), Isabelle Wallace (3 months, 22 days), Frank F. Wyckoff (6 months, 9 days) and George F. Murdock, messenger.

The regular clerical force remains as last reported, with the exception of the promotion of Fred Fair from the position of messenger to that of clerk. The list is as follows: John M. McCarthy, assistant to the secretary; Mary A. Riley and Nellie M. Barlow, stenographers; Edward A. Austin, accountant; Alice M. Worthen, copyist; Fred Fair, clerk.

Mr. George E. Rayner has continued in the employ of the commission as inspector of the road-building machinery.

EXPENDITURES.

The following is a summary of the expenditures of the Massachusetts Highway Commission from Dec. 1, 1903, to Nov. 30, 1904:—

CONSTRUCTION EXPENDITURES.

TOWN OR CITY.	Year of Lay-out.	Amount.	Totals.
<i>Barnstable County.</i>			
Bourne,	1903	\$1,912 23	
Bourne,	1904	4,784 29	
Dennis,	1895	36 00	
<i>Amount carried forward,</i>		\$6,732 52	

CONSTRUCTION EXPENDITURES — *Continued.*

TOWN OR CITY.	Year of Lay-out.	Amount.	Totals.
<i>Amount brought forward,</i>		\$6,732 52	
Dennis,	1896	36 00	
Dennis,	1897	72 01	
Dennis,	1898	36 00	
Dennis,	1904	4,412 49	
Eastham,	1904	2,625 13	
Harwich,	1903	1,464 87	
Orleans,	1903	1,235 79	
Orleans (Pleasant Bay),	1904	3,105 08	
Orleans (Eastham),	1904	219 44	
Provincetown,	1903	4,027 45	
Wellfleet,	1904	3,487 92	
Yarmouth,	1894	59 29	
Yarmouth,	1895	59 29	
Yarmouth (1st),	1896	59 29	
Yarmouth (2d),	1896	59 29	
			\$27,691 86
<i>Berkshire County.</i>			
Becket,	1904	\$3,701 93	
Cheshire,	1902	85 85	
Dalton,	1903	530 04	
Dalton,	1904	3,791 97	
Hancock (1903 contract),	1895	948 04	
Hinsdale,	1903	3,113 37	
Lenox,	1900	47 58	
Lenox,	1904	824 84	
Lee,	1900	67 21	
Pittsfield (1903 contract),	1897	8 34	
Pittsfield,	1904	5,501 27	
Richmond,	1903	12 50	
Richmond,	1904	2,630 96	
Windsor,	1903	1,158 77	
			22,422 67
<i>Bristol County.</i>			
Acushnet,	1903	\$99 86	
Dartmouth (1903 contract),	1903	1,209 65	
Dartmouth (1904 contract),	1903	54 41	
Dighton,	1903	114 72	
Freetown,	1903	74 31	
Norton,	1903	47 45	
Rehoboth,	1895	2,237 74	
Rehoboth,	1896	282 93	
Rehoboth,	1899	51 44	
Rehoboth,	1903	2,078 94	
Seekonk,	1904	7,766 77	
Somerset,	1895	555 57	
Somerset,	1896	555 57	
Somerset,	1903	15 89	
<i>Amounts carried forward,</i>		\$15,145 25	\$50,114 53

CONSTRUCTION EXPENDITURES — *Continued.*

TOWN OR CITY.	Year of Lay-out.	Amount.	Totals.
<i>Amounts brought forward,</i>		\$15,145 25	\$50,114 53
Somerset,	1904	4,112 50	
Swansea (1st),	1903	492 83	
Swansea (2d),	1903	1,040 07	
Swansea (3d),	1903	4 23	
Westport,	1894	3,048 25	23,843 13
<i>Dukes County.</i>			
Edgartown,	1903	\$7 31	
West Tisbury (1st),	1904	3,651 95	
West Tisbury (2d),	1904	522 59	4,181 85
<i>Essex County.</i>			
Amesbury,	1903-04	\$8,577 03	
Andover,	1895	31 72	
Andover,	1896	31 72	
Andover,	1897	31 72	
Andover,	1899	31 72	
Andover,	1900	31 72	
Andover,	1902	31 72	
Andover,	1903	440 57	
Groveland,	1903	660 24	
Haverhill,	1899	6,826 61	
Haverhill,	1903	140 01	
Merrimac,	1903	712 49	
Newbury,	1904	4,210 85	
North Andover,	1904	1,969 40	
Salisbury,	1904	3,008 00	
Wenham,	1903	543 80	
West Newbury,	1903	1,616 45	
West Newbury,	1904	16 33	28,912 10
<i>Franklin County.</i>			
Buckland (bridge),	1903	\$180 42	
Buckland,	1903	3,992 81	
Deerfield,	1895	1,240 84	
Deerfield,	1896	1,101 66	
Deerfield,	1903	330 13	
Deerfield,	1904	15 04	
Greenfield,	1903	2,778 26	
Montague,	1904	5,030 81	
Orange,	1904	8,298 91	
Shelburne,	1894	126 65	
Sunderland,	1903	829 62	
Sunderland,	1904	4 50	
Whately,	1903	1,111 82	
Whately,	1904	4,533 84	29,575 31
<i>Amount carried forward,</i>			\$136,626 92

CONSTRUCTION EXPENDITURES — *Continued.*

TOWN OR CITY.	Year of Lay-out.	Amount.	Totals.
<i>Amount brought forward,</i>			\$136,626 92
<i>Hampden County.</i>			
Agawam,	1903	\$55 70	
Agawam,	1904	4,628 27	
Chester,	1904	4,633 01	
Chicopee,	1903	5,208 72	
Chicopee,	1904	4,885 68	
East Longmeadow,	1904	5,576 87	
West Springfield,	1895	2,134 51	
West Springfield,	1896	318 40	
Wilbraham,	1904	9,396 01	
			36,837 17
<i>Hampshire County.</i>			
Hadley,	1903	\$4,813 62	
Hadley,	1904	13,577 11	
Huntington,	1903	3,638 61	
South Hadley,	1903	10 13	
South Hadley,	1904	3,707 97	
Ware,	1903	782 25	
Williamsburg,	1903	926 05	
			27,455 74
<i>Middlesex County.</i>			
Acton,	1902	\$5 83	
Ashland,	1903	3,000 59	
Ashby,	1894	43 42	
Ashby,	1895	43 41	
Ashby,	1896	43 42	
Ashby,	1897	43 42	
Ashby,	1898	43 42	
Ashby,	1899	43 42	
Bedford,	1902	86 91	
Bedford,	1903	2,174 09	
Burlington (1st),	1903	1 69	
Burlington (2d),	1903	229 98	
Burlington,	1904	7,338 03	
Chelmsford,	1903	337 53	
Chelmsford,	1904	6,889 67	
Framingham,	1904	1,474 92	
Littleton,	1902	9 92	
Littleton,	1903	281 89	
Littleton,	1904	2,859 73	
Marlborough,	1902	290 77	
Marlborough,	1903	727 13	
Marlborough,	1904	6,489 09	
Natick,	1901	100 07	
Natick,	1903	12,180 94	
North Reading,	1897	40 98	
North Reading,	1898	40 97	
<i>Amounts carried forward,</i>		\$44,821 24	\$200,919 83

CONSTRUCTION EXPENDITURES — *Continued.*

TOWN OR CITY.	Year of Lay-out.	Amount.	Totals.
<i>Amounts brought forward,</i>		\$44,821 24	\$200,919 83
North Reading,	1901	40 97	
North Reading,	1903	4,203 00	
North Reading (bridge),	1903	71 26	
Reading,	1899	66 33	
Reading,	1900	66 33	
Reading,	1902	85 34	
Reading,	1903	10,807 70	
Reading (bridge),	1903	71 27	
Stoneham,	1897	28 06	
Stoneham,	1900	28 06	
Stoneham,	1901	28 06	
Sudbury,	1903	14 77	
Tewksbury,	1903	1,547 38	
Tewksbury,	1904	6,604 12	
Townsend (1903 contract),	1901	162 40	
Townsend (1904 contract),	1901	3,433 39	
Wayland,	1903	20 16	
Westford,	1902	1,127 55	
Westford,	1903	55 52	
			73,282 91
<i>Norfolk County.</i>			
Bellingham,	1904	\$17 31	
Braintree,	1902	30 01	
Needham,	1901	395 05	
Norwood,	1895	16 05	
Norwood,	1896	16 04	
Norwood,	1897	16 04	
Norwood,	1899	16 04	
Quincy,	1904	4,148 95	
Stoughton,	1903	3,170 96	
Stoughton,	1904	3,878 76	
Walpole,	1897	47 33	
Walpole,	1898	47 33	
Walpole,	1900	47 33	
Wellesley,	1901	103 41	
Westwood,	1899	32 76	
Weymouth,	1903	8,314 80	
Weymouth,	1904	2,376 47	
			22,674 64
<i>Nantucket County.</i>			
Nantucket,	1903	\$5,034 20	5,034 20
<i>Plymouth County.</i>			
Abington,	1903	\$562 55	
Bridgewater,	1904	10,540 60	
Brockton,	1904	4,224 44	
Duxbury,	1903	6,075 56	
<i>Amounts carried forward,</i>		\$21,403 15	\$301,911 58

CONSTRUCTION EXPENDITURES — *Continued.*

TOWN OR CITY.	Year of Lay-out.	Amount.	Totals.
<i>Amounts brought forward,</i>		\$21,403 15	\$301,911 58
Marion,	1902	88 64	
Marion (1st),	1903	651 67	
Marion (2d),	1903	232 05	
Marshfield,	1904	4,247 91	
Mattapoisett,	1903	544 61	
Middleborough (1903 contract),	1903	28 49	
Middleborough (1904 contract),	1903	8,178 63	
Rochester,	1903	475 07	
Scituate,	1903	4,742 33	
Wareham,	1902	132 97	
West Bridgewater,	1904	2,265 14	
			42,990 66
<i>Worcester County.</i>			
Athol,	1903	\$729 03	
Auburn,	1904	7,974 00	
Brookfield,	1903	960 15	
Douglas,	1904	4,251 43	
Douglas (bridge),	1904	177 31	
Dudley,	1904	4,233 75	
Fitchburg,	1894	81 06	
Fitchburg,	1895	81 05	
Fitchburg,	1903	1,526 04	
Fitchburg,	1904	5,805 55	
Holden,	1898	1,110 60	
Leicester,	1896	136 46	
Leicester,	1898	136 46	
Leicester,	1899	136 46	
Leominster (1904 contract),	1902	3,085 11	
Lunenburg,	1903	350 99	
Milford,	1904	9 15	
Millbury,	1903	504 89	
Millbury,	1904	6,219 27	
New Braintree,	1903	1,102 40	
Northborough,	1904	3,453 84	
Princeton,	1902	101 26	
Princeton,	1903	1,972 05	
Shrewsbury,	1895	3 38	
Shrewsbury,	1896	3 38	
Shrewsbury,	1897	69 80	
Shrewsbury,	1904	5,935 28	
Southborough,	1903	3,368 77	
Southbridge,	1902	147 84	
Spencer,	1899	44 92	
Spencer,	1900	89 83	
Sutton,	1903	501 20	
Sutton,	1904	1,539 41	
Templeton,	1903	859 86	
<i>Amounts carried forward,</i>		\$56,701 98	\$344,902 24

CONSTRUCTION EXPENDITURES — *Concluded.*

TOWN OR CITY.	Year of Lay-out.	Amount.	Totals.
<i>Amounts brought forward,</i>		\$56,701 98	\$344,902 24
Uxbridge,	1903	1,312 24	
Westborough,	1903	5,083 52	
Westminster,	1894	29 51	
Westminster,	1895	29 51	
Westminster,	1896	59 01	
Westminster,	1897	29 51	
Westminster,	1898	29 51	
Westminster,	1899	29 51	
Westminster,	1903	7,283 67	
Worcester,	1897	1,337 76	
Worcester,	1903	2,187 26	
			74,112 99
			\$419,015 23

REPAIR AND MAINTENANCE EXPENDITURES.

[From loan fund and under chapter 280 of the Acts of 1903 and chapter 316 of the Acts of 1904.]

TOWN OR CITY.	Paid from Loan Fund.	PAID FROM REVENUE.		Amount.	Totals.
		Chapter 280.	Chapter 316.		
<i>Barnstable County.</i>					
Barnstable,	\$13 88	\$57 25	\$320 06	\$393 19	
Bourne,	—	5 73	29 64	35 37	
Brewster,	32 44	70 91	400 90	504 25	
Chatham,	—	66 80	98 19	164 99	
Dennis,	36 63	71 44	390 68	498 75	
Eastham,	64 82	—	396 04	460 86	
Harwich,	—	49 45	178 98	228 43	
Orleans,	5 41	13 59	80 80	99 80	
Provincetown,	—	—	15 89	15 89	
Sandwich,	—	7 51	157 11	164 62	
Truro,	—	128 68	164 99	293 67	
Wellfleet,	3 70	—	410 47	414 17	
Yarmouth (north),	10 40	18 09	205 22	233 71	
Yarmouth (south),	25 84	76 32	1,223 30	1,325 46	
	\$193 12	\$565 77	\$4,074 27	\$4,833 16	\$4,833 16
<i>Berkshire County.</i>					
Adams,	—	—	\$16 95	\$16 95	
Becket,	—	—	5 07	5 07	
Cheshire,	—	—	103 86	103 86	
Dalton,	—	\$22 68	411 34	434 02	
Great Barrington,	—	—	1,156 04	1,156 04	
Hancock,	\$32 25	—	508 36	540 61	
Hinsdale,	—	—	24 42	24 42	
Lee,	—	96 79	883 67	980 46	
<i>Am'ts carried forward, .</i>	\$32 25	\$119 47	\$3,109 71	\$3,261 43	\$4,833 16

REPAIR AND MAINTENANCE EXPENDITURES — *Continued.*

TOWN OR CITY.	Paid from Loan Fund.	PAID FROM REVENUE.		Amount.	Totals.
		Chapter 280.	Chapter 316.		
<i>Am'ts brought forward, .</i>	\$32 25	\$119 47	\$3,109 71	\$3,261 43	\$4,833 16
Lenox,	—	5 33	104 60	109 93	
North Adams,	—	10 15	760 25	770 40	
Pittsfield,	—	7 68	350 67	358 35	
Richmond,	—	—	12 92	12 92	
Williamstown,	3 70	36 68	3,172 27	3,212 65	
Windsor,	—	57 64	4 70	62 34	
	\$35 95	\$236 95	\$7,515 12	\$7,788 02	7,788 02
<i>Bristol County.</i>					
Acushnet,	—	\$47 72	\$87 63	\$135 35	
Attleborough,	—	—	58 89	58 89	
Dartmouth,	—	87 85	39 77	127 62	
Dighton,	—	—	12 22	12 22	
Easton,	\$3 33	3 38	44 95	51 66	
Fairhaven,	—	—	108 36	108 36	
Freetown,	—	4 57	47 44	52 01	
Mansfield,	—	—	12 42	12 42	
North Attleborough,	—	—	46 39	46 39	
Norton,	—	—	864 85	864 85	
Raynham,	—	90 97	7 02	97 99	
Rehoboth,	—	63 43	138 21	201 64	
Seekonk,	—	—	13 64	13 64	
Somerset,	—	144 09	164 81	308 90	
Swansea,	—	—	19 43	19 43	
Taunton,	—	11 09	42 12	53 21	
Westport,	—	114 76	126 84	241 60	
	\$3 33	\$567 86	\$1,834 99	\$2,406 18	2,406 18
<i>Dukes County.</i>					
Cottage City,	\$9 88	\$20 04	\$108 37	\$138 29	
Edgartown,	8 58	17 43	96 23	122 24	
Tisbury,	9 54	16 32	87 96	113 82	
West Tisbury,	13 33	24 02	140 75	178 10	
	\$41 33	\$77 81	\$433 31	\$552 45	552 45
<i>Essex County.</i>					
Amesbury,	\$2 85	\$25 76	\$31 89	\$60 50	
Andover,	4 80	18 27	135 84	158 91	
Beverly,	4 63	209 87	197 83	412 33	
Essex,	—	—	1 66	1 66	
Gloucester,	—	—	2,284 58	2,284 58	
Groveland,	—	6 45	20 27	26 72	
Hamilton,	55 03	—	175 95	230 98	
Haverhill,	9 26	38 29	183 91	231 46	
Lawrence,	4 70	—	187 71	192 41	
Merrimac,	2 25	13 48	118 84	134 57	
Methuen,	7 85	—	101 20	109 05	
Newbury,	—	62 14	137 11	199 25	
Newburyport,	—	3 45	120 85	124 30	
North Andover,	9 00	30 17	112 84	152 01	
Rockport,	—	—	27 86	27 86	
Salem,	—	—	63	63	
Saugus,	—	79 16	389 77	468 93	
Swampscott,	121 70	—	84 62	206 32	
Wenham,	—	8 22	46 84	55 06	
West Newbury,	—	3 55	266 86	270 41	
	\$222 07	\$498 81	\$4,627 06	\$5,347 94	5,347 94
<i>Am't carried forward, .</i>	.	.	.	.	\$20,927 75

REPAIR AND MAINTENANCE EXPENDITURES — *Continued.*

TOWN OR CITY.	Paid from Loan Fund.	PAID FROM REVENUE.		Amount.	Totals.
		Chapter 280	Chapter 316.		
<i>Am't brought forward, .</i>	. .	. .	. .	. .	\$20,927 75
<i>Franklin County.</i>					
Ashfield,	—	\$1 07	\$113 90	\$114 97	
Buckland,	\$12 00	9 64	229 42	251 06	
Charlemont,	—	22 33	103 95	126 28	
Colrain,	6 00	8 88	78 05	92 93	
Deerfield,	12 80	1,676 95	137 47	1,827 22	
Erving,	2 00	18 67	200 68	221 35	
Greenfield,	—	—	75 24	75 24	
Montague,	70 90	—	11 78	82 68	
Northfield,	—	4 57	36 25	40 82	
Orange,	80	110 02	325 15	435 97	
Shelburne,	—	—	2,056 05	2,056 05	
Sunderland,	—	2 74	5 60	8 34	
Whately,	12 50	—	82 50	95 00	
	\$117 00	\$1,854 87	\$3,456 04	\$5,427 91	5,427 91
<i>Hampden County.</i>					
Agawam,	—	—	\$5 46	\$5 46	
Brimfield,	—	—	175 13	175 13	
Chester,	—	\$15 73	199 53	215 26	
Chicopee,	\$30 05	153 28	204 45	387 78	
East Longmeadow,	—	—	2 78	2 78	
Monson,	—	7 71	72 78	80 49	
Palmer,	—	10 49	315 93	326 42	
Russell,	16 00	117 89	1,908 74	2,042 63	
Wales,	—	—	83 49	83 49	
Westfield,	—	17 41	885 63	903 04	
West Springfield,	—	—	102 48	102 48	
Wilbraham,	—	1 62	207 68	209 30	
	\$46 05	\$324 13	\$4,164 08	\$4,534 26	4,534 26
<i>Hampshire County.</i>					
Amherst,	—	—	\$24 92	\$24 92	
Belchertown,	—	—	7 01	7 01	
Easthampton,	—	\$33 45	76 74	110 19	
Goshen,	\$92 19	78 14	79 49	249 82	
Granby,	44 47	6 09	139 52	190 08	
Hadley,	—	—	332 25	332 25	
Hatfield,	—	—	6 34	6 34	
Huntington,	20 00	1,137 39	694 40	1,851 79	
Northampton,	11 11	5 34	176 75	193 20	
South Hadley,	46 88	58 23	434 18	539 29	
Ware,	—	—	10 95	10 95	
Williamsburg,	—	—	68 02	68 02	
	\$214 65	\$1,318 64	\$2,050 57	\$3,583 86	3,583 86
<i>Middlesex County.</i>					
Acton,	\$1 50	\$1 12	\$130 19	\$132 81	
Ashby,	—	—	195 53	195 53	
Ashland,	—	—	51 20	51 20	
Bedford,	—	—	74 38	74 38	
Boxborough,	1 00	50	29 23	30 73	
Burlington,	5 59	—	62 98	68 57	
Chelmsford,	28 21	9 59	53 76	91 56	
Concord,	—	47 32	82 58	129 90	
Groton,	—	—	26 07	26 07	
Lexington,	—	123 78	128 21	251 99	
Lincoln,	—	49 22	131 87	181 09	
<i>Am'ts carried forward, .</i>	\$36 30	\$231 53	\$966 00	\$1,233 83	\$34,473 78

REPAIR AND MAINTENANCE EXPENDITURES—*Continued.*

TOWN OR CITY.	Paid from Loan Fund.	PAID FROM REVENUE.		Amount.	Totals.
		Chapter 280	Chapter 316		
<i>Am'ts brought forward, .</i>	\$36 30	\$231 53	\$966 00	\$1,233 83	\$34,473 78.
Littleton,	—	3 25	123 73	126 98	
Lowell (north),	—	32 55	22 45	55 00	
Lowell (south),	24 18	29 38	2,404 74	2,458 30	
Marlborough,	1 50	21 97	168 65	192 12	
Natick,	—	—	15 21	15 21	
Newton,	—	—	4 91	4 91	
North Reading,	1 05	—	42 67	43 72	
Reading,	3 59	1 25	196 25	201 09	
Stoneham,	96	1 16	54 98	57 10	
Sudbury,	5 65	—	133 29	138 94	
Tewksbury,	—	8 12	46 60	54 72	
Townsend,	—	—	129 39	129 39	
Tyngsborough,	—	53 41	52 35	105 76	
Watertown,	79 89	—	66 26	146 15	
Wayland,	—	—	138 16	138 16	
Westford,	—	8 62	275 81	284 43	
Weston,	—	116 62	102 42	219 04	
Winchester,	9 19	—	216 62	225 81	
Woburn,	3 99	—	192 74	196 73	
	\$166 30	\$507 86	\$5,353 23	\$6,027 39	6,027 39
<i>Nantucket County.</i>					
Nantucket,	\$24 50	\$24 86	\$289 21	\$338 57	338 57
<i>Norfolk County.</i>					
Bellingham,	—	—	\$4 18	\$4 18	
Braintree,	—	—	40 40	40 40	
Cohasset,	—	—	22 09	22 09	
Foxborough,	—	—	17 63	17 63	
Holbrook,	\$7 29	\$7 39	81 19	95 87	
Milton,	21 00	—	4 14	25 14	
Needham,	—	—	63 90	63 90	
Norfolk,	—	28 04	31 49	59 53	
Norwood,	7 50	74 14	14 74	96 38	
Quincy,	—	—	5 04	5 04	
Randolph,	—	—	6 57	6 57	
Stoughton,	—	—	123 00	123 00	
Walpole,	—	5 70	53 61	59 31	
Wellesley,	—	—	5 58	5 58	
Westwood,	—	—	4 98	4 98	
Weymouth,	1 04	1 06	41 36	43 46	
Wrentham,	—	147 03	57 70	204 73	
	\$36 83	\$263 36	\$577 60	\$877 79	877 79
<i>Plymouth County.</i>					
Abington,	\$4 92	\$4 99	\$73 97	\$83 88	
Bridgewater,	—	—	107 08	107 08	
Brockton,	10 54	10 70	135 09	156 33	
Duxbury,	9 75	33 00	158 34	201 09	
Hingham,	—	—	25 10	25 10	
Lakeville,	—	22 61	62 75	85 36	
Marion,	2 50	—	101 62	104 12	
Marshfield,	6 25	32 87	204 42	243 54	
Mattapoisett,	—	—	85 83	85 83	
Middleborough,	—	—	42 34	42 34	
Plymouth,	3 70	12 08	211 96	227 74	
Rochester,	—	—	36 24	36 24	
<i>Am'ts carried forward, .</i>	\$37 66	\$116 25	\$1,244 74	\$1,398 65	\$41,717 53

REPAIR AND MAINTENANCE EXPENDITURES — *Concluded.*

TOWN OR CITY.	Paid from Loan Fund.	PAID FROM REVENUE.		Amount.	Totals.
		Chapter 280.	Chapter 316.		
<i>Am'ts brought forward, .</i>	\$37 66	\$116 25	\$1,244 74	\$1,398 65	\$41,717 53
Rockland,	—	—	17 56	17 56	
Scituate,	—	72 35	232 74	305 09	
Wareham,	—	—	110 51	110 51	
West Bridgewater, . .	11 42	11 59	124 31	147 32	
Whitman,	7 08	7 19	159 18	173 45	
	\$56 16	\$207 38	\$1,889 04	\$2,152 58	2,152 58
<i>Suffolk County.</i>					
Chelsea,	—	\$6 13	\$11 12	\$17 25	
Revere (east), . . .	—	11 55	161 59	173 14	
Revere (west), . . .	—	40 49	161 23	201 72	
	—	\$58 17	\$333 94	\$392 11	392 11
<i>Worcester County.</i>					
Athol,	—	\$86 77	\$487 33	\$574 10	
Auburn,	\$7 41	—	197 65	205 06	
Barre,	—	—	139 00	139 00	
Blackstone,	—	—	159 08	159 08	
Brookfield,	—	—	201 17	201 17	
Charlton,	—	—	49 28	49 28	
Douglas,	—	—	49 01	49 01	
Dudley,	—	—	94 22	94 22	
Fitchburg,	—	—	299 00	299 00	
Gardner,	—	—	235 49	235 49	
Grafton,	3 70	—	148 66	152 36	
Hardwick,	—	—	3 89	3 89	
Harvard,	1 00	—	8 34	9 34	
Holden,	7 41	—	234 30	241 71	
Lancaster,	20 20	—	71 19	91 39	
Leicester,	3 70	—	296 85	300 55	
Leominster,	4 60	22 34	21 15	48 09	
Lunenburg,	—	—	188 07	188 07	
Millbury,	—	15 98	146 51	162 49	
New Braintree, . . .	—	—	1 89	1 89	
Northborough, . . .	—	—	110 88	110 88	
Paxton,	—	—	430 17	430 17	
Phillipston,	—	8 83	78 45	87 28	
Princeton,	—	—	70 33	70 33	
Shrewsbury,	—	—	254 08	254 08	
Southborough, . . .	—	—	3 61	3 61	
Southbridge,	—	—	7 60	7 60	
Spencer,	3 70	—	11 45	15 15	
Sterling,	—	—	126 66	126 66	
Sturbridge,	—	—	11 62	11 62	
Sutton,	—	—	118 05	118 05	
Templeton,	—	—	132 54	132 54	
Uxbridge,	—	—	100 33	100 33	
Warren,	—	—	401 86	401 86	
West Boylston, . . .	—	—	120 28	120 28	
West Brookfield, . .	—	—	72 60	72 60	
Westborough,	—	—	11 23	11 23	
Westminster,	—	1 40	1,938 82	1,940 22	
Worcester,	—	—	414 26	414 26	
	\$51 72	\$135 32	\$7,446 90	\$7,633 94	7,633 94
Totals,	\$1,209 01	\$6,641 79	\$44,045 36	—	\$51,896 16

EXPENDITURES UNDER "SMALL TOWN" ACTS.

[Chapter 47, Revised Laws.]

Ashburnham,	\$400 00
Berlin,	648 00
Bernardston,	200 00
Billerica,	740 00
Blandford,	804 00
Bolton,	544 00
Carver,	1,088 00
Chesterfield,	400 00
Conway (two contracts),	3,252 00
East Bridgewater (two contracts),	1,200 00
Egremont,	540 00
Georgetown,	737 50
Gill,	432 00
Greenwich,	300 00
Hampden,	322 00
Hanson,	1,100 00
Hawley,	493 00
Heath (two contracts),	336 00
Hubbardston,	1,440 00
Leyden,	300 00
Maynard,	1,384 00
Mendon,	636 00
Monroe,	504 00
Oakham,	456 00
Pembroke,	671 00
Peru,	26 40
Petersham,	2,800 00
Prescott,	358 00
Rutland,	656 00
Salisbury,	980 00
Sandisfield,	652 00
Sherborn (two contracts),	1,558 00
Shutesbury,	548 00
Warwick,	1,288 00
Washington,	512 00
Wendell,	650 00
Westhampton,	392 00
Winchendon (three contracts),	3,704 75
Total,	<hr/> \$33,052 65

EXPENDITURES UNDER CHAPTER 100, RESOLVES OF 1904.

Road Repair at Middlefield.

Payments for work under contract at Middlefield,	\$2,796 78
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EXPENDITURES UNDER CHAPTER 384, ACTS OF 1903.

Lynn State Highway Construction.

Payments for work done under contract at Lynn, . . .	\$26,655 06
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EXPENDITURES UNDER SECTION 38, CHAPTER 112, REVISED LAWS.

Cheshire, Hoosac Valley Street Railway Company, . . .	\$1,917 60
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GENERAL EXPENSES FOR TREE PLANTING.

Amount not yet distributed to construction expense, . . .	\$75 00
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EXPENDITURES UNDER CHAPTER 485, ACTS OF 1903.

Automobile Registration.

Salaries of clerks and clerical assistants,	\$160 00
Number plates for registering automobiles,	193 75
Miscellaneous items,	2 10
	<hr/>
	\$355 85

GENERAL EXPENSES.

For Month of December, 1903.

[Under Acts of 1903, Chapter 14.]

Salaries of commissioners,	\$708 35
Travel of commissioners,	94 67
Salaries of clerical assistants and first and second assistant engineers,	1,000 67
Printing and postage,	28 53
Rent of offices,	989 58
Advertising hearings,	17 45
Telephone, including tolls,	22 39
Recording land takings and easements,	17 99
Repairs to steam road rollers,	112 05
Miscellaneous items, including office supplies, ex- press charges, telegrams, and minor office ex- penses,	69 25
	<hr/>
	\$3,060 93

Jan. 1 to Nov. 30, 1904.

[Under Acts of 1904, Chapter 19.]

Salaries of commissioners,	\$7,791 65
Travel of commissioners,	2,475 51
Salaries of clerical assistants and first and second assistant engineers,	11,889 00
Rent of offices,	3,900 66
Printing and binding annual report,	1,040 44
Office and typewriter supplies,	349 83
	<hr/>

<i>Amounts carried forward,</i>	\$27,747 09	\$3,060 93
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<i>Amounts brought forward,</i>	\$27,747 09	\$3,060 93
Printing, including postal cards and envelopes,	1,009 23	
Telephone, including tolls,	318 37	
Postage,	138 68	
Recording land takings and easements,	164 18	
Advertising hearings,	76 03	
Repairs to steam road rollers,	993 20	
Miscellaneous items, including express charges, car fares, telegrams, and other minor office expenses,	360 75	
		30,507 53

Automobile Registration.

Salaries of clerks and clerical assistants,	\$3,541 84	
Travel and expense,	9 80	
Number plates for registering automobiles,	1,276 80	
Badges for professional chauffeurs,	374 50	
Office and typewriter supplies,	109 52	
Printing, including postal cards and envelopes,	851 19	
Sheriff's services in notices for hearings,	52 70	
Miscellaneous items, including express charges, telegrams, car fares, due stamps and other minor office expenses,	56 85	
		6,273 20
		\$39,841 66

SUMMARY OF EXPENDITURES.

For construction,	\$419,015 23
For road repair and maintenance,	51,896 16
For construction under "small town" acts,	33,052 65
For construction under chapter 100, Resolves of 1904,	2,796 78
For construction under chapter 384, Acts of 1903,	26,655 06
For expenditures under chapter 112 of Revised Laws,	1,917 60
For general expenses for tree planting,	75 00
For automobile registration, chapter 485, Acts of 1903,	355 85
For general expenses, including automobile registration, for 1904, to November 30,	39,841 66
	\$575,605 99

W. E. McCLINTOCK,
HAROLD PARKER,
JOHN H. MANNING,

Massachusetts Highway Commission.

APPENDIX.

APPENDIX A.

TABLE SHOWING THE HIGHWAYS LAID OUT AND CONTRACTED
SEVERAL CONSTRUCTIONS

[In the last column the capital letters have the following significance: A, trap; B, local field stone; F, gravel; G, gravel and four-inch macadam; H, screened gravel; K, clay and four-

	TOWN OR CITY.	Year.	ROAD LAID OUT.
			From —
1	Abington,	1900-1-03, . . .	Brockton line,
2	Acton, ²	1899-1900-1-2, . .	Concord line to Littleton line, . .
3	Acton (west),	1901,	Boxborough line,
4	Acushnet,	1897,	1,500 feet from New Bedford line, .
5	Acushnet,	1901-03,	Rochester line via Long Plain to Rochester line.
6	Adams,	1897,	Cheshire line,
7	Agawam,	1903,	South end bridge at Connecticut River,
8	Agawam,	1904,	Southerly end of 1903 section, . .
9	Amesbury,	1899-1901-03, . .	Merrimac line,
10	Amesbury,	1904,	Easterly end of 1903 section, . . .
11	Amherst,	1901,	Hadley line,
12	Amherst,	1904,	Hadley line to Hadley line, . . .
13	Andover,	1895-6,	Lawrence line,
14	Andover,	1897-99-1900-02-03, .	North Reading line,
15	Ashby,	1894-5-6-7-8-9, . .	Ashby post-office to Fitchburg line, .
16	Ashfield,	1897-8,	One mile north of Ashfield post-office,
17	Ashland,	1903,	Southborough line,
18	Athol,	1895-6,	Orange line,
19	Athol,	1902,	Phillipston line,
20	Athol,	1903,	Westerly end of 1902 section, . .
21	Attleborough,	1900-01-03, . . .	North Attleborough line,
22	Auburn,	1895-6-7-1901, . .	Dunn's Mills,
23	Auburn,	1898-9,	Worcester line,
24	Auburn,	1903,	South-westerly end of 1901 lay-out, .
25	Auburn,	1904,	Dunn's Mills to 1899 section, . .

¹ 1900 section.² Exclusive of 1,100 feet at railroad crossing.

APPENDIX A.

FOR BY THE COMMISSION, AND THE NATURE OF THE
TO JAN. 1, 1905.

stone; C, local ledge other than trap; D, bottom course field stone, top course trap; E, lime-
inch macadam; M, clay and screened gravel; N, unsurfaced; O, stone from Cohasset quarry.]

ROAD LAID OUT.		Length Con- structed.	WIDTHS.			Material of Road Surface.	
Direction.	Length.		Location.	Macadam.	Shoulders.		
	Miles.	Miles.	Feet.	Feet.	Feet.		
Easterly, . .	1.73	1.74	50-60	15	¹ 3	B.	1
North-westerly, .	3.71	3.71	50-50+	15	³ 3	A-G.	2
South-easterly, .	.72	.72	50	15	-	A.	3
Northerly, . .	.61	.61	50+	15	3	B.	4
Westerly and northerly.	2.80	2.80	40	15	-	B.	5
Northerly, . .	.57	.57	50	15	3	A.	6
Southerly, . .	.70	.70	50-60+	15	-	A.	7
Southerly, . .	.45	.45	50	15	-	A.	8
Easterly, . .	1.70	1.70	50-55-60	15	⁴ 3	B.	9
Easterly, . .	.54	.54	50+	15	-	B.	10
Easterly, . .	.95	.95	50	15	-	A.	11
Easterly, . .	.02	.02	50	15	-	A.	12
Southerly, . .	1.22	1.22	66	18	3	D.	13
Northerly, . .	2.98	2.98	60	15	⁵ 3	B-C.	14
Southerly, . .	3.58	3.58	50-66	20-18-15	5-3	B.	15
Northerly, . .	1.61	1.61	50-70	-	-	H.	16
Easterly, . .	1.47	1.47	50+	-	-	F.	17
Easterly, . .	1.61	1.61	50	17	3	A-D.	18
North-westerly, .	.61	.61	50	15	-	B.	19
North-westerly, .	.88	.41	50	15	-	B.	20
South-westerly, .	2.66	2.66	66	-	-	F.	21
South-westerly, .	2.91	2.91	50+	15	3	'95 A, '96-7 B, 1901 F.	22
Southerly, . .	1.14	1.14	50+	15-18	3	A.	23
South-westerly, .	.45	-	50	-	-	-	24
Northerly, . .	.76	.76	50	15	-	A-G.	25

³ 1899-1900 sections.⁴ 1899 section.⁵ 1897-99-1900 sections.

TABLE SHOWING THE HIGHWAYS LAID OUT OR

	TOWN OR CITY.	Year.	ROAD LAID OUT.
			From —
1	Barnstable (north), . . .	1899-1902, . . .	Sandwich line,
2	Barnstable (south), . . .	1897-1901, . . .	Yarmouth line,
3	Barre,	1897-99-1900-02, . . .	Ware River bridge to Barre Common,
4	Becket,	1902,	Chester line,
5	Becket,	1904,	Westerly end of 1902 section, . . .
6	Bedford,	1897-1902, . . .	Lexington line,
7	Bedford,	1903,	Carlisle bridge,
8	Belchertown,	1900-1-2,	Near depot,
9	Bellingham,	1902,	900 feet from Blackstone line, . . .
10	Bellingham,	1904,	Franklin line,
11	Beverly,	1895-97-98, . . .	Wenham line,
12	Blackstone,	1899-1900-02, . . .	Uxbridge line,
13	Bourne,	1897-8,	Cohasset Narrows,
14	Bourne,	1904,	Easterly end of 1898 section, . . .
15	Bourne,	1903,	Back River bridge,
16	Boxborough,	1897-99,	Acton line,
17	Braintree,	1900-02,	Quincy line,
18	Brewster,	1895-6-7-1901, . . .	Dennis line to Orleans line, . . .
19	Bridgewater,	1904,	Near Middleborough line, . . .
20	Brimfield,	1897-99,	Monson line,
21	Brimfield,	1901-2,	Wales line,
22	Brockton,	1897-8-9,	Easton line,
23	Brockton,	1900,	Abington line,
24	Brockton,	1904,	West Bridgewater line,
25	Brookfield,	1897-8-1900, . . .	Mill Street,
26	Brookfield,	1904,	Mill Street,
27	Brookfield,	1904,	Easterly end of 1900 section, . . .
28	Brookfield,	1902-3,	West Brookfield line,
29	Buckland,	1894-1900-03, . . .	Shelburne Falls station,
30	Burlington,	1903,	Woburn line,
31	Burlington,	1904,	Northerly end of 1903 section, . . .
32	Charlemont,	1897-8-9,	Deerfield River bridge,
33	Charlton,	1901-2,	Charlton depot to Charlton city, . . .
34	Chatham,	1899-1901-2, . . .	Depot Street,
35	Chelmsford,	1898-9-1901, . . .	Lowell line to North Chelmsford, . .
36	Chelmsford,	1903,	Lowell line,

CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

ROAD LAID OUT.		Length Con- structed.	WIDTHS.			Material of Road Surface.	
Direction.	Length		Location.	Macadam.	Shoulders		
	Miles.	Miles.	Feet.	Feet.	Feet.		
South-easterly, .	2.14	2.00	40-50	15	-	1899 B, 1902 B-G.	1
Westerly, . .	2.26	2.26	40-62	12-15-18	-	B.	2
North-westerly, .	2.89	2.89	49.5-50 ⁺	15	-	A, 1902 B.	3
South-westerly, .	.28	.28	50	12	-	A.	4
Westerly, . .	.79	.79	50	-	-	N.	5
North-westerly, .	1.07	1.07	50-60	15	1 3	B.	6
Southerly, . .	.04	.04	50	-	-	N.	7
Westerly, . .	1.37	1.37	50	15	-	A-G.	8
North-easterly, .	.38	.38	50	15	-	B.	9
Westerly, . .	.98	-	50-66	-	-	-	10
Southerly, . .	2.01	2.01	50-60	18	3	'95-'97 A, 98 C.	11
South-easterly, .	1.74	1.74	49.5-50 ⁺	15	2 3	A-G.	12
Easterly, . .	1.42	1.42	45 ⁺	15	3	B-C.	13
Easterly, . .	.67	.67	40	15	-	O.	14
Southerly, . .	.96	.96	60 ⁺	15	-	B-G.	15
Westerly, . .	1.36	1.36	60-50	15	4-3	B.	16
South-easterly, .	1.06	1.06	66	18	3 3	A.	17
Easterly, . .	7.79	7.79	40-50-50 ⁺	15	3	B.	18
Northerly, . .	1.36	1.36	50-50 ⁺	15	-	B.	19
Southerly, . .	2.34	2.34	60-50	-	-	97 H, 99 F.	20
Northerly, . .	1.63	1.63	50	-	-	F.	21
Easterly, . .	1.87	1.87	33	16	8.5	B.	22
Westerly, . .	.66	.66	50	15	3	B.	23
Northerly, . .	.66	.66	50-60	15	-	B.	24
Easterly, . .	1.39	1.39	50	15	3	A.	25
Westerly, . .	.25	-	50	-	-	-	26
Easterly, . .	.60	-	50	-	-	-	27
Easterly, . .	.87	.87	50 ⁺ 88-100	15	-	A-G.	28
Westerly and southerly.	3.94	3.94	30-50	24-18-15-12	4 3	A-C.	29
Northerly, . .	.99	.99	40-50	15	-	B.	30
Northerly, . .	.95	.95	40-50	15	-	B.	31
Easterly, . .	.77	.77	50-42 ⁺	15	3	D.	32
Southerly, . .	1.91	1.91	50	15	-	B.	33
North-westerly, .	1.69	1.69	50	15-12	2 3	A-O.	34
Westerly, . .	1.44	1.43	50	18-15	3	A.	35
South-westerly,	.57	.57	60	18	-	H-O.	36

³ 1900 section.⁴ Not on 1903 section.

TABLE SHOWING THE HIGHWAYS LAID OUT OR

	TOWN OR CITY.	Year.	Road Laid Out.
			From —
1	Chelmsford,	1904,	Southerly end of 1903 section, . . .
2	Chelsea,	1901,	Willoughby Street,
3	Chelsea,	1904,	Willoughby Street,
4	Cheshire,	1899-1900-1-2, . . .	Farnam's station, Boston & Albany Railroad.
5	Chester,	1899-1900-1-2, . . .	Becket line,
6	Chester,	1904,	Easterly end of 1902 section, . . .
7	Chicopee,	1897-8-9,	Springfield line,
8	Chicopee,	1902-3,	Near Chicopee River bridge, . . .
9	Chicopee,	1904,	Northerly end of 1903 section, . . .
10	Cohasset,	1897-8-1900, . . .	Near Hingham line,
11	Cohasset,	1902-3,	Beechwood Street to Scituate line, .
12	Colrain,	1898-1901,	Shelburne line,
13	Concord,	1897-8,	Lincoln line,
14	Concord,	1900,	Acton line,
15	Cottage City,	1894-5-6,	Sengekontacket bridge,
16	Dalton,	1895-6-1903, . . .	Pittsfield line,
17	Dalton,	1904,	Easterly end of 1903 section, . . .
18	Dartmouth,	1898-9-1900-1, . . .	Near Westport line,
19	Dartmouth,	1903,	Easterly end of 1901 section, . . .
20	Deerfield,	1894-5,	South Deerfield station to Sunderland bridge.
21	Deerfield,	1900-1-2-3,	Cheapside bridge,
22	Deerfield,	1904,	South Deerfield village,
23	Dennis (north),	1895-6-7-8,	Yarmouth line to Brewster line, . . .
24	Dennis (south),	1900-1-2,	Bass River bridge,
25	Dennis (south),	1904,	Easterly end of 1902 section, . . .
26	Dighton,	1902-03,	Taunton line to Rehoboth line, . . .
27	Douglas,	1902,	Sutton line,
28	Douglas,	1904,	South-easterly end of 1902 section, .
29	Dudley,	1902,	1,400 feet from Webster line, . . .
30	Dudley,	1904,	Westerly end of 1902 section, . . .
31	Duxbury,	1894-5-97-99-1903, .	Marshfield line,
32	Eastham,	1903,	Wellfleet line,
33	Eastham,	1904,	4,600 feet from Orleans line, . . .
34	Easthampton,	1895-6,	Northampton line,
35	Easthampton,	1900-1,	Clark Street to foot of Mt. Tom, . . .
36	East Longmeadow,	1904,	Longmeadow village toward Springfield.

CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

ROAD LAID OUT.		Length Con- structed.	WIDTHS.			Material of Road Surface.	
Direction.	Length		Location.	Macadam.	Shoulders.		
	Miles.	Miles.	Feet.	Feet.	Feet.		
Southerly, . .	.70	.70	60	18	-	O.	1
Southerly, . .	.58	.58	66	24	-	A.	2
Northerly, . .	.38	-	66	-	-	-	3
North-easterly, .	2.60	2.60	50+	15	-	'99-1900 A-G, 1901-02 F.	4
Easterly, . .	1.55	1.55	50	15-12	-	A.	5
Easterly, . .	1.30	1.30	40-50	15	-	B.	6
Northerly, . .	.92	.92	50-55-60	20	4-3	A.	7
Northerly, . .	1.04	1.04	50+60-84	18	-	A.	8
Northerly, . .	.38	.38	66-100	18	-	A.	9
Easterly, . .	1.73	1.73	50-50+	15	3	B-D.	10
Southerly, . .	.55	.55	47-60+70	15	-	C.	11
Northerly, . .	1.83	1.83	40-50-50+	-	-	H.	12
North-westerly, .	1.47	1.47	50	15	3	B.	13
South-westerly, .	.52	.52	50	15	3	A-G.	14
Northerly, . .	2.37	2.37	50	15	3	B.	15
Easterly, . .	2.04	2.04	30-57-60-66	15	1 3	A.	16
South-easterly, .	.51	.51	50-62	15	-	A.	17
Easterly, . .	2.68	2.68	80	18	-	B.	18
Easterly, . .	.69	-	80±	18	-	B.	19
South-easterly, .	1.53	1.53	30	15	3	A.	20
Southerly, . .	1.43	1.43	50	15	-	A.	21
Northerly, . .	.45	-	50-83	-	-	A.	22
North-easterly, .	4.27	4.27	40-50-65	15	3	B.	23
Easterly, . .	1.95	1.95	40-45-50	15	-	A-O.	24
Easterly, . .	.45	.45	50±	15	-	O.	25
South-westerly, .	1.56	1.56	47.5-66	15	-	B.	26
South-easterly, .	.93	.93	40+	15	-	B.	27
South-easterly, .	.67	.66	40+-50	15	-	B.	28
Westerly, . .	.59	.59	66	15	-	A-G.	29
Westerly, . .	.46	.46	66	15	-	A-G.	30
Southerly, . .	2.84	2.84	30-40-50	15	2 3	B-C-O-G.	31
Southerly, . .	.78	.78	40	15	-	K.	32
Northerly, . .	.85	.85	50	15	-	B.	33
South-westerly, .	1.32	1.32	40	15	3	A.	34
Southerly, . .	1.10	1.10	49.5	15	3	A.	35
North-westerly, .	.59	.59	49.5	15	-	A.	36

² Except 1903 section.

TABLE SHOWING THE HIGHWAYS LAID OUT OR

	TOWN OR CITY.	Year.	ROAD LAID OUT.
			From —
1	Easton,	1900,	Brockton line,
2	Edgartown,	1897-9-1900-1-2-3, .	Cottage City line,
3	Erving,	1898-9-1900, . .	Town hall to Orange line, . . .
4	Essex,	1902-3,	Essex River,
5	Fairhaven,	1894-5,	Mattapoisett line,
6	Fitchburg,	1894-5,	Westminster line,
7	Fitchburg,	1897,	Lunenburg line,
8	Fitchburg,	1900-1-03,	Ashby line,
9	Fitchburg,	1904,	Southerly end of 1903 section, . .
10	Foxborough,	1901-2,	Mansfield line,
11	Framingham,	1904,	New York, New Haven & Hartford Railroad tracks on Pleasant Street.
12	Freetown,	1902-3,	New Bedford line to Lakeville line, .
13	Gardner,	1897-8,	Templeton line,
14	Gardner,	1900-1,	Westminster line,
15	Gloucester,	1894-5-8,	Manchester line,
16	Goshen,	1894-5,	Goshen village to Williamsburg line, .
17	Grafton,	1897-99-1900, . .	Millbury line,
18	Granby,	1894-1902,	South Hadley line,
19	Great Barrington,	1894-96-7-1902, . .	Housatonic River,
20	Greenfield, ³	1899-1900-02, . .	Washington Street,
21	Greenfield,	1903,	Silver Street,
22	Groton,	1901-2,	Near Nashua River at Pepperell line,
23	Groveland,	1900-1-2,	King Street to West Newbury line, .
24	Hadley,	1894-98-9-1900-02-3,	Connecticut River bridge, . . .
25	Hadley,	1904,	End of 1903 section to Amherst line, .
26	Hamilton,	1899-1900,	Ipswich line,
27	Hancock,	1895-6-98-9,	Pittsfield line to New York line, . .
28	Hardwick,	1897-1901,	New Braintree line,
29	Harvard,	1900,	Woodchuck Hill,
30	Harwich,	1899-1900-1-2-3, . .	Dennis line,
31	Hatfield,	1901,	Northampton line,
32	Haverhill,	1899,	River and Maxwell streets, . . .
33	Haverhill,	1902,	Kenosa Road,
34	Hingham,	1894,	Weymouth Back River,
35	Hingham,	1896-7,	Near Cohasset line,

¹ 1897-9-1900 sections.² 1894 section.⁴ 1899-1900 sections.⁵ 1900 section.

CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

ROAD LAID OUT.		Length Con- structed.	WIDTHS.			Material of Road Surface.	
Direction.	Length.		Location.	Macadam.	Shoulders.		
	Miles.	Miles.	Feet.	Feet.	Feet.		
South-westerly, .	.80	.80	70	15	3	B-G.	1
Southerly, . .	2.42	2.42	50-66	15	¹ 3	B.	2
Easterly, . .	2.04	2.04	50-50+	-	-	F.	3
Easterly and west- erly.	.35	.35	36-50	15	-	A.	4
Westerly, . .	1.45	1.45	30	15	3	B.	5
Easterly, . .	.97	.97	50	15	3	A.	6
Westerly, . .	.61	.61	50	18-15	3	D.	7
Southerly, . .	1.59	1.59	50-50±	15	-	B.	8
Southerly, . .	.97	.97	50	15	-	B.	9
Northerly, . .	1.82	1.82	50	15	-	B-G.	10
North-westerly, .	1.14	.24	40-52	15	-	B.	11
Northerly, . .	3.19	3.19	50-50±	15	-	B-G.	12
Easterly, . .	2.37	2.37	50+	15	-	A-G.	13
Westerly, . .	.98	.98	60	15	-	A-N.	14
North-easterly, .	2.48	2.48	50	15	3	C-B.	15
South-easterly, .	1.91	1.91	50	15	3	B.	16
South-easterly, .	1.56	1.56	50	15	3	G-A-B.	17
North-easterly, .	1.03	1.01	36-50	15	² 3	A.	18
Easterly, . .	3.41	3.41	40-50-70	² 18-15	² 3	'94-A, '96-'97- 1902 F.	19
Easterly, . .	1.33	1.33	49.5-50	18-15	⁴ 3	A.	20
North-easterly, .	.41	.41	50	15	-	A.	21
South-easterly, .	1.38	1.38	50	15	-	A-G.	22
North-easterly, .	1.45	1.45	50	15	⁵ 3	A.	23
Easterly, . .	3.79	3.79	50-82.5-66±	15	⁶ 3	A.	24
Easterly, . .	.90	.90	50	15	-	A.	25
South-westerly, .	1.44	1.44	50-60	15	3	B.	26
Westerly, . .	3.23	3.23	50	⁷ 15	-	C-F.	27
Northerly, . .	.82	.82	50	15	3	A.	28
Westerly, . .	.70	.70	60	15	-	B.	29
Easterly, . .	5.10	5.10	40-40±	15	-	A-O-G.	30
North-easterly, .	.39	.39	50	15	-	A.	31
Westerly, . .	2.08	2.08	70	15	-	B.	32
North-easterly, .	1.07	.91	50-60	15	-	B.	33
Easterly, . .	1.42	1.42	34	-	-	F.	34
Westerly, . .	1.23	1.23	50-33+	15	3	D.	35

³ Exclusive of 500 feet at Cheapside bridge and 1,100 feet at railroad crossing.⁶ 1894-8-9-1900 sections.⁷ Portion of 1895 section macadamized.

TABLE SHOWING THE HIGHWAYS LAID OUT OR

	TOWN OR CITY.	Year.	ROAD LAID OUT.
			From —
1	Hinsdale,	1901-2-3,	Dalton line,
2	Holbrook,	1894-96-1902,	Weymouth line,
3	Holden,	1894-5-6-7,	Jefferson village,
4	Holden,	1898 1900,	Worcester line,
5	Huntington,	1895-6,	Russell line,
6	Huntington,	1903,	Near railroad crossing,
7	Lakeville,	1901-2,	One-half mile from Middleborough line,
8	Lancaster,	1902,	Clinton line to Sterling line, ¹
9	Lawrence,	1896,	Methuen line,
10	Lee,	1894-5-6,	Lee Park,
11	Lee,	1900,	Lenox line,
12	Leicester,	1894-5-6-98-9,	Worcester line to Spencer line, ²
13	Lenox,	1899-1900-1,	Lee line to Lenox village,
14	Lenox,	1904,	Lenox village,
15	Leominster,	1901-2,	Sterling line,
16	Lexington,	1895-6-7-8,	Massachusetts Avenue,
17	Lexington,	1900,	Bedford line,
18	Lincoln,	1895-6-7,	Concord line to Lexington line,
19	Littleton,	1902-3,	Acton line via Great Road,
20	Littleton,	1902,	Westford line to Great Road,
21	Littleton,	1904,	End of 1903 section,
22	Lowell (Boulevard),	1897,	Tyngsborough line,
23	Lowell (Princeton Street),	1897-8,	Chelmsford line,
24	Lunenburg,	1898-9-1900-1-03,	Fitchburg line,
25	Lynn,	1899,	Saugus River, near Revere line,
26	Mansfield,	1901,	Foxborough line,
27	Marion,	1894-5-1901,	Marion village to Wareham line,
28	Marion,	1897-99-1901-2,	Marion village to Mattapoissett line,
29	Marion,	1903,	Marion village to Rochester line,
30	Marlborough (east),	1897-1902-3-4,	Sudbury line to Hosmer Street,
31	Marlborough (west),	1897-99-1900-1,	Northborough line,
32	Marshfield,	1894-96-98-9-1901-2,	Duxbury line,
33	Marshfield,	1904,	Northerly end of 1902 section,
34	Mattapoissett,	1894-5,	Fairhaven line,
35	Mattapoissett,	1900-1-03,	Marion line to Ned Point Light Road,

¹ Exclusive of 1,000 feet at railroad crossing. ³ Macadamized for 2,350 feet from Sterling line.² Exclusive of road in Leicester village. ⁴ 1902 section.

CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

ROAD LAID OUT.		Length Con- structed.	WIDTHS.			Material of Road Surface.	
Direction.	Length.		Location.	Macadam.	Shoulders.		
	Miles.	Miles.	Feet.	Feet.	Feet.		
South-easterly, .	1.02	1.02	50-50+	15	-	A.	1
North-westerly, .	1.75	1.75	50	15	-	B-G.	2
South-easterly, .	2.70	2.70	30-49.5	18-15	3	B.	3
Northerly, . .	1.06	1.06	50	15	3-5	B.	4
Westerly, . .	1.01	1.01	50+	15	3	A.	5
Westerly, . .	.53	.53	50	15	-	A-G.	6
South-westerly, .	3.57	3.57	45-50	15	-	B-G.	7
Northerly, . .	1.25	.91	49.5	18	-	A.	8
Southerly, . .	.27	.27	50	18	7	C.	9
Easterly, . .	1.98	1.98	35-40-50	24-15	3	D.	10
Southerly, . .	1.26	1.26	50	15	3	D.	11
Westerly, . .	4.87	4.87	39-53-55-67+	24-18-16-15	3-5-5.5	'94-5-6 D, 98-9 B.	12
Northerly, . .	2.28	2.28	60-66-56±	15	3	D.	13
Northerly, . .	2.43	1.65	50+-100	15	-	B.	14
Northerly, . .	2.18	2.18	50	³ 15	-	F-O.	15
Westerly, . .	3.45	3.45	50-50+	15	3	B.	16
South-easterly, .	.85	.85	50	15	3	B.	17
South-easterly, .	2.06	2.06	50	15	3	B.	18
Northerly, . .	1.10	1.10	50	⁴ 15	-	1902 A-G, 1903	19
South-westerly, .	.32	.32	50	-	-	F.	20
Northerly, . .	1.03	1.03	40-62	-	-	F.	21
Easterly, . .	.97	.97	60	15	3	D.	22
Easterly, . .	1.34	1.34	50±	18	6	D.	23
Easterly, . .	2.72	2.72	50-50+	15	⁵ 3	D; 1903, B-G.	24
North-easterly, .	.90	Partly graded.	70	-	-	-	25
South-easterly, .	.72	.72	50	15	-	B-G.	26
North-easterly, .	1.59	1.59	40-50-65	15	3	B.	27
Westerly, . .	1.84	1.84	40-50-55	15	⁶ 3	B.	28
North-westerly, .	2.14	2.14	40-50	15	-	B.	29
Westerly, . .	3.10	3.10	40-50-60	15	⁷ 3	B.	30
Easterly, . .	2.41	2.41	50-65	15	5-4-3	B.	31
Northerly, . .	3.19	3.19	30-40-45-50	15	⁶ 3	B-C-G.	32
Northerly, . .	.81	.81	40-40+	15	-	B.	33
Easterly, . .	1.16	1.16	30	15	3	B.	34
Westerly, . .	2.05	2.05	40-50	15	-	B.	35

⁵ 1898-9-1900 sections.⁷ 1897 section.⁶ 1897-99 sections.

TABLE SHOWING THE HIGHWAYS LAID OUT OR

	TOWN OR CITY.	Year.	ROAD LAID OUT.
			From —
1	Merrimac,	1897-8-9,	Near Haverhill line,
2	Merrimac,	1901-03,	Amesbury line,
3	Methuen,	1896-1900-1-2,	Lawrence line,
4	Middleborough,	1894-5-6-7-8-1902-3,	Nemasket River to Rochester line, . .
5	Milford,	1904,	Highland Avenue via West Street, . .
6	Millbury,	1902,	Worcester line to Grafton line, . .
7	Millbury,	1900-03,	Worcester line,
8	Millbury,	1904,	End of 1903 section,
9	Milton,	1899-1900,	Neponset River,
10	Monson,	1894,	Railroad bridge,
11	Monson,	1901,	Palmer line,
12	Montague,	1898-9,	Third Street, near L Street, Turner's Falls.
13	Montague,	1904,	East end of 1898 section,
14	Nantucket,	1894-5-6-7-9-1900-1-3,	First mile stone, near Orange Street, .
15	Natick,	1901,	Wellesley line,
16	Natick,	1903,	Sherborn line,
17	Needham,	1901,	Newton line,
18	New Braintree,	1897,	Hardwick line to Ware line,
19	New Braintree,	1903,	New Braintree village,
20	Newbury,	1899-1900-1-2,	Newburyport line to Oldtown,
21	Newbury, ⁵	1904,	End of 1902 section,
22	Newburyport,	1896-7-8,	West Newbury line,
23	Newton,	1901,	Needham line,
24	Norfolk,	1895,	Walpole line to Wrentham line, . . .
25	North Adams,	1894-96-7,	Williamstown line,
26	North Adams,	1900-1-2-3,	Boston & Maine Railroad bridge to Adams line.
27	North Andover,	1900-02,	Lawrence line,
28	North Andover,	1904,	Easterly end of 1902 section,
29	Northampton,	1894,	Hadley bridge,
30	Northampton,	1897-8-9-1900,	Easthampton line, ⁷
31	North Attleborough,	1894-5-6-7-99,	Bruce Avenue to Attleborough line, .
32	Northborough (east),	1897-8,	Marlborough line,
33	Northborough (south),	1897,	Westborough line,
34	Northborough (west),	1900-02,	Shrewsbury line,
35	Northborough,	1904,	End of 1902 section,

¹ 1896 section.² 7.5 feet on 1894 section and 3 feet on 1895-6-7-8 sections.³ Exclusive of 1903 section.⁴ 1899-1900 sections.

CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

ROAD LAID OUT.		Length Con- structed.	WIDTHS.			Material of Road Surface.	
Direction.	Length.		Location.	Macadam.	Shoulders.		
	Miles.	Miles.	Feet.	Feet.	Feet.		
North-easterly, .	.92	.92	50-50+	15	4-3	B-C.	1
South-westerly, .	1.20	1.20	50-60	15	-	B-C.	2
North-easterly, .	2.63	2.63	50	15	1 3	C-B.	3
South-easterly, .	8.98	8.98	50	15	2 -	B-G.	4
North-easterly, .	1.18	-	50-50+	-	-	-	5
South-easterly, .	.78	.78	50	15	-	A-G.	6
Southerly, . .	.89	.89	50	15	3	A.	7
Southerly, . .	.72	.72	50	15	-	B.	8
South-easterly, .	.87	.87	49.5-82.5	24	4	A.	9
Northerly, . .	.93	.93	36	15	3	A.	10
South-easterly, .	.10	.10	50	15	-	A.	11
South-easterly, .	1.63	1.63	60	15	3	A.	12
Easterly, . . .	.85	.85	60	15	-	C.	13
Easterly, . . .	6.48	6.48	66	15-12	3 3	B-E-G.	14
Westerly, . . .	1.14	1.14	60-70	15-18-20	-	A-G.	15
Easterly, . . .	2.06	2.06	60	15	-	D-G.	16
Westerly, . . .	1.00	1.00	60-86	22	-	B.	17
Southerly, . .	.17	.17	50	15	3	A.	18
Northerly, . .	.22	.22	50±	-	-	F.	19
Southerly, . .	2.67	2.67	60-66-80-95	15	4 3	B.	20
Southerly, . .	.70	.70	50-70	15	-	B.	21
Easterly, . . .	1.75	1.75	60-66+75+	15	3	C.	22
Easterly, . . .	1.03	1.03	45-86	22	-	A.	23
South-westerly, .	1.45	1.45	50	15	3	B.	24
Easterly, . . .	1.69	1.69	30-66	15	3	D.	25
Southerly, . .	2.32	2.09	50-65	15	6 3	A 1903-N.	26
South-easterly, .	1.68	1.68	60-66	15	6 3	A-D.	27
Easterly, . . .	.22	.22	60	15	-	A.	28
South-westerly, .	.56	.56	40	20	3	C.	29
Northerly, . .	1.12	1.12	50	15	3	A.	30
South-westerly, .	3.60	3.60	36-66	24-18-15	3	'94-5 B, '96-'97-'99 F.	31
South-westerly, .	1.33	1.33	66	15	4-3	B.	32
North-westerly, .	.42	.42	50	15	3	B.	33
Easterly, . . .	1.37	1.37	66	15	6 3	B.	34
Easterly, . . .	.82	.70	66	15	-	B.	35

⁵ Exclusive of Parker River bridge.⁷ Exclusive of 1,825 feet at railroad crossing.⁶ 1900 section.

TABLE SHOWING THE HIGHWAYS LAID OUT OR

	TOWN OR CITY.	Year.	ROAD LAID OUT.
			From —
1	Northfield,	1901-2,	Near Mill Brook,
2	North Reading,	1897-8-1901,	Andover line,
3	North Reading,	1903,	Reading line,
4	Norton,	1903,	Village to near railroad station,
5	Norwood,	1897-99,	Walpole line,
6	Norwood,	1895-6,	Ellis station,
7	Orange,	1894-5-97,	Athol line,
8	Orange,	1900-1-03,	Erving line,
9	Orange,	1904,	Easterly end of 1903 section,
10	Orleans,	1900-1,	Brewster line,
11	Orleans,	1904,	End of 1901 section to Eastham line,
12	Orleans,	1903,	1½ miles from Shattuck's Corner,
13	Orleans,	1904,	End of 1903 section,
14	Palmer,	1899-1900-1,	Tenneyville to Monson line,
15	Paxton,	1895-6-7-8-1902,	Worcester line,
16	Phillipston,	1897-8-1902,	Athol line,
17	Phillipston,	1904,	End of 1902 section,
18	Pittsfield,	1894-98-1901-2,	Hancock line,
19	Pittsfield,	1897,	Dalton line,
20	Pittsfield,	1904,	South Mountain Road,
21	Plymouth,	1894-5-6-7-8-1902,	Manomet village,
22	Plymouth,	1904,	End of 1902 section,
23	Princeton,	1897-1900-02-3,	Princeton station,
24	Provincetown,	1901-03,	Truro line to Allerton Street,
25	Quincy,	1899,	Near Weymouth Fore River bridge,
26	Quincy,	1902,	Braintree line,
27	Quincy,	1904,	Randolph line to Milton line,
28	Randolph,	1902-3,	Quincy line,
29	Raynham,	1901-2-3,	Taunton line to Raynham village,
30	Reading,	1899-1900,	Stoneham line,
31	Reading,	1902-3,	North Reading line,
32	Rehoboth,	1895-6-99-1903,	Seekonk line,
33	Revere,	1897-8,	Boston line,
34	Revere,	1899,	Saugus line,
35	Richmond,	1897-8-9-1901-2-3,	Boston & Albany railroad station,
36	Richmond,	1904,	End of 1903 section,

¹ 1897-8 sections.² 1894-98 sections.³ Excepting 1902 section.

CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

ROAD LAID OUT.		Length Con- structed.	WIDTHS.			Material of Road Surface.	
Direction.	Length.		Location.	Macadam.	Shoulders.		
	Miles.	Miles.	Feet.	Feet.	Feet.		
Southerly, . .	1.16	1.16	70-135-156- 160	15	-	A.	1
Southerly, . .	1.76	1.76	66	15	¹ 3	C-B.	2
Northerly, . .	.55	.55	66	15	-	B.	3
Easterly, . .	.72	.72	40	15	-	B.	4
Northerly, . .	1.03	1.03	45-50-60	15	3	B.	5
Southerly, . .	1.02	1.02	40-50-67	15	3	B.	6
Westerly, . .	2.18	2.18	30-49.5	17	3-5	D-A.	7
Easterly, . .	1.71	1.71	50-50±	15	-	B-A-G.	8
Easterly, . .	.85	.85	50	15	-	A.	9
North-easterly, .	1.24	1.24	50	15	3	B.	10
Northerly, . .	.74	.74	50-50+	15	-	B.	11
South-easterly, .	1.00	1.00	50	12	-	B-G.	12
South-easterly, .	.69	.69	50	12	-	B-G.	13
South-easterly, .	2.52	2.52	50+	15	3	G-A.	14
North-westerly, .	3.60	3.60	50-65-70	15	3-5	B.	15
Easterly, . .	1.21	1.21	50	15-12	¹ 3-4	B.	16
Easterly, . .	.74	-	50	-	-	-	17
Easterly, . .	2.38	2.38	40-50-60	15	² 3	A.	18
Westerly, . .	.76	.76	50	15	-	A-G.	19
Southerly, . .	.76	.76	50-100	15	-	B.	20
Northerly, . .	4.28	4.28	40-50-112	15	³ 3	B.	21
Northerly, . .	.77	-	41½-50	-	-	-	22
Easterly, . .	2.23	2.23	50	15	⁴ 3	B.	23
Westerly, . .	1.10	1.10	33-50	15	-	B-O-G.	24
North-westerly, .	.49	.49	63-66	32	-	A.	25
Northerly, . .	.57	.53	66	15	-	B.	26
Northerly, . .	1.23	.60	52-66	15	-	B.	27
South-easterly, .	1.38	1.38	66	15	-	B.	28
North-easterly, .	1.48	1.48	40-40+	15	-	O.	29
Northerly, . .	1.07	1.07	66	15-18	3	B.	30
Southerly, . .	2.67	2.67	66	15-18	-	B.	31
Easterly, . .	2.59	2.59	60-50+	15	⁵ 3	B-G.	32
North-easterly, .	.58	.58	44-50	24	3	A.	33
South-westerly, .	.67	.67	71	22	2	A.	34
Northerly, . .	2.38	2.38	66	-	-	F.	35
Northerly, . .	.34	.34	50-66	-	-	F.	36

⁴ 1897-1900 sections.⁵ Excepting 1903 section.

TABLE SHOWING THE HIGHWAYS LAID OUT OR

	TOWN OR CITY.	Year.	ROAD LAID OUT.
			From—
1	Rochester,	1903,	Marion line to Acushnet line,
2	Rockland,	1902,	Abington line,
3	Rockport,	1902,	Near Gloucester line,
4	Russell,	1894-5-6-7-8-9, .	Westfield line to Huntington line, .
5	Rutland,	1904,	Holden line,
6	Salem,	1901,	Swampscott line,
7	Salisbury,	1904,	Town Creek,
8	Sandwich,	1897-8-1900-02, .	Barnstable line,
9	Saugus,	1899,	Fox Hill bridge to Revere line, . . .
10	Scituate,	1894-5-1900-03, .	Gannett's Corners,
11	Seekonk,	1900-1-2,	Rehoboth line,
12	Seekonk,	1904,	End of 1902 section to Providence line,
13	Shelburne,	1894-5-6-7, . . .	Bridge Street to Colrain line, . . .
14	Shrewsbury,	1895-6-7-8-9-1900, .	Worcester line,
15	Shrewsbury,	1904,	End of 1900 section to Northborough line.
16	Somerset,	1895-6-7-99-1900-1-2,	Slade's Ferry bridge,
17	Somerset,	1903,	Swansea line,
18	Somerset,	1904,	End of 1903 section,
19	Southborough,	1902,	Westborough line,
20	Southbridge,	1902,	Charlton line,
21	South Hadley,	1895-97-8-9-1900, .	Granby line to South Hadley Falls, .
22	South Hadley,	1903,	End of 1900 lay-out,
23	South Hadley,	1904,	End of 1903 section,
24	Spencer,	1897-1900-1, . . .	Leicester line,
25	Sterling,	1897-8,	Near town hall,
26	Stoneham,	1897-8,	South Street,
27	Stoneham,	1900-1,	Reading line,
28	Stoughton,	1902-3,	Canton line to Lincoln Street, . . .
29	Stoughton,	1904,	Walnut Street,
30	Sturbridge,	1897,	Fisk Hill Road,
31	Sturbridge,	1903-4,	End of 1897 section,
32	Sudbury,	1897-8-1900-1-2-3, .	Marlborough line to Wayland line, .
33	Sunderland,	1897-1903,	Connecticut River bridge,
34	Sunderland,	1904,	End of 1903 section,
35	Sutton,	1899-1901-2, . . .	Millbury line,
36	Sutton,	1903-4,	Douglas line at Manchaug,

¹ 1894-5 sections.² 1897-8-1900 sections.³ Excepting 1903 section.

CONTRACTED FOR BY THE COMMISSION, ETC.—*Continued.*

ROAD LAID OUT.		Length Con- structed.	WIDTHS.			Material of Road Surface.	
Direction.	Length.		Location.	Macadam.	Shoulders.		
	Miles.	Miles.	Feet.	Feet.	Feet.		
Westerly, . . .	5.27	5.27	33-62	15	3	B.	1
North-easterly, . .	1.00	1.00	50	15	-	B.	2
Northerly, . . .	.32	.32	50+	15	-	A.	3
North-easterly, . .	6.66	6.66	50	15	13	94-95 A, 96-7-8-9 F.	4
Westerly, . . .	1.16	-	50-59	-	-	-	5
Northerly, . . .	.13	.13	60+	-	-	F.	6
Northerly, . . .	1.10	1.00	50-99	21	-	A.	7
Westerly, . . .	2.83	2.83	50	15	23	O-B.	8
Southerly, . . .	1.60	1.60	71±	22	2	A.	9
South-easterly, . .	2.52	2.52	30-40-50	15	33	A-B-C.	10
Westerly, . . .	1.57	1.57	60	15	43	B.	11
Westerly, . . .	1.19	1.19	60	15-20	-	B.	12
North-easterly, . .	2.16	2.16	30-50	18-15	3	B-A.	13
North-easterly, . .	3.90	3.90	50 65-66	18-15	5-4-3	B.	14
North-easterly, . .	.96	.84	66	15	-	B.	15
Northerly, . . .	4.50	4.50	40-50-60	18-15	53	B.	16
South-easterly, . .	1.19	1.19	60	15	-	B.	17
South-easterly, . .	.70	.65	45-60	15	-	B.	18
Easterly, . . .	.76	.76	50±	-	-	F.	19
South-westerly, . .	.91	.91	50	-	-	F.	20
South-westerly, . .	2.42	2.42	36-50	15	3	A.	21
Northerly, . . .	1.97	1.97	49.5 60	15	-	A.	22
Northerly, . . .	.74	.74	64-110	15	-	A.	23
Westerly, . . .	1.60	1.60	50 58 60	15	4-3	B-D.	24
South-westerly, . .	1.29	1.29	50	15	3	A.	25
Northerly, . . .	.57	.57	60-66	15	7.5	B.	26
Southerly, . . .	1.01	1.01	66	15	-	B-G.	27
Southerly, . . .	1.16	1.16	60	15	-	B.	28
Southerly, . . .	.83	.83	66	15	-	B.	29
North-westerly, . .	.59	.59	50	15	4-3	B.	30
North-westerly, . .	.80	-	50-50±	-	-	-	31
Easterly, . . .	5.11	5.11	49.5-50-60	15	23	B, 1903 A.	32
South-easterly, . .	.68	.68	50	15	63	A.	33
Southerly, . . .	.23	-	50	-	-	-	34
Southerly, . . .	1.46	1.46	50	15	-	B.	35
Northerly, . . .	.82	.82	50-50±	15	-	B.	36

4 1900 section.

5 Excepting 1901-2 sections.

6 1897 section.

TABLE SHOWING THE HIGHWAYS LAID OUT OR

	TOWN OR CITY.	Year.	ROAD LAID OUT.
			From —
1	Swampscott, . . .	1897-1900-1, . . .	Salem line,
2	Swansea,	1903,	Somerset line,
3	Swansea,	1903,	Myles River bridge,
4	Taunton,	1895-6 98-9-1900-1, . . .	Dighton line on Winthrop Street, . .
5	Templeton,	1899-1901-2-3, . . .	Gardner line at Otter River,
6	Tewksbury, ¹	1900-1-2-3,	Lowell line,
7	Tewksbury,	1904,	End of 1903 section,
8	Tisbury,	1894,	Vineyard Haven to West Tisbury line,
9	Townsend,	1896-7-8-9-1900-1, . . .	Groton line,
10	Truro,	1895,	Wellfleet line to Kelley's Corner, . .
11	Tyngsborough,	1895-6,	Tyngsborough bridge to Lowell line, .
12	Uxbridge,	1897-8-1901-03, . . .	Blackstone line,
13	Wales,	1901,	Brimfield line,
14	Walpole (south),	1894-5-97-1900, . . .	Norfolk line,
15	Walpole (north),	1897-8-1900,	Norwood line, ⁴
16	Ware,	1897-99-1900-03, . . .	New Braintree line,
17	Wareham,	1896-1901,	Marion line,
18	Wareham,	1898-1901,	Cohasset Narrows bridge,
19	Warren,	1896-7-8,	West Warren,
20	Warren,	1899-1900-1,	Warren to West Brookfield line, . .
21	Watertown,	1895-6,	Waltham line,
22	Wayland,	1897-1900 03,	Weston line to Sudbury line, ⁶ . . .
23	Wellesley,	1901,	Natick line,
24	Wellfleet,	1903,	Eastham line,
25	Wellfleet,	1904,	End of 1903 section,
26	Wenham,	1897-1901-03,	Beverly line to Hamilton line, . . .
27	Westborough,	1897,	Northborough line,
28	Westborough,	1903,	Southborough line,
29	West Boylston,	1897-8,	Worcester line,
30	West Bridgewater,	1900-1-2,	Brockton line,
31	West Bridgewater,	1904,	1902 section to Bridgewater line, . .
32	West Brookfield,	1899-1900-1,	Brookfield line,
33	West Brookfield,	1899,	Ware line to Ware line,
34	Westfield,	1894-96-98-99,	West Springfield line,
35	Westfield,	1898-9-1900-1-2,	Russell line,
36	Westford,	1902,	Littleton line,

¹ Exclusive of 1,200 feet at railroad crossing.² Broken stone and clay.³ Beach stone.⁴ Exclusive of Neponset River bridge.

CONTRACTED FOR BY THE COMMISSION, ETC. — *Continued.*

ROAD LAID OUT.		Length Con- structed.	WIDTHS.			Material of Road Surface.	
Direction.	Length.		Location.	Macadam.	Shoulders.		
	Miles.	Miles.	Feet	Feet.	Feet.		
South-westerly, .	1.49	1.49	50-60-64-50±	18 20	-	1897 F, 1900-1 A.	1
North-westerly, .	.31	.31	50-65	15	-	B-G.	2
Easterly and westerly.	.80	.80	40-50-55	15	-	B-G.	3
Easterly, .	2.94	2.94	40-66	15	3	B.	4
North-westerly, .	2.00	2.00	50	15	-	A-G.	5
South-easterly, .	3.45	3.45	50-50±	15	-	A.	6
South-easterly, .	1.36	1.25	50	15	-	B.	7
South-westerly, .	1.93	1.93	50	15	3	B.	8
North-westerly, .	4.69	4.69	50-55-60	15	3	B-A-F-G.	9
Northerly, .	2.36	2.36	10 2-15 3	-	-	K-M.	10
South-easterly, .	2.95	2.95	60	15	3	A-D.	11
North-westerly, .	2.18	2.18	50-50±	15	-	B-A, 1903 F.	12
South westerly, .	1.04	1.04	50±	-	-	F.	13
Northerly, .	2.60	2.60	50	15	3	C-B.	14
Southerly, .	1.94	1.94	50	15	3	B.	15
Southerly, .	2.28	2.28	50	15	5 3	A.	16
North-easterly, .	.71	.71	50	15	3	B.	17
Westerly, .	1.82	1.82	50-40±	15	3	B.	18
Easterly, .	1.89	1.89	49.5-50	15	3-4	A.	19
Easterly, .	1.41	1.41	49.5	15	-	A-G.	20
Easterly, .	.85	.85	36	27	3-4	A-B.	21
Westerly, .	2.58	2.58	49.5-50-66-99	15	3	B.	22
Easterly, .	1.18	1.18	52-60-70	15	-	A-G.	23
Northerly, .	1.74	1.74	40	15	-	K.	24
Northerly, .	1.26	.98	40	12	-	K.	25
Northerly, .	1.75	1.75	50-60	18-15	-	A.	26
South-easterly, .	.76	.76	50	15	3	B.	27
South-westerly, .	1.46	1.46	50	-	-	F.	28
Northerly, .	1.55	1.55	50	15	3	'97 H, '98-A H.	29
Southerly, .	2.74	2.74	50-55±	15	-	B.	30
Southerly, .	.42	.42	60±-115 55	15	-	B.	31
North-westerly, .	1.51	1.51	50	15	-	A.	32
South-westerly, .	.15	.15	50	15	3	A.	33
Westerly, .	2.22	2.22	50	18-15	3	A.	34
Easterly, .	3.59	3.59	50-50±	18-15	7 3	A-B.	35
Northerly, .	3.25	3.25	40-50	-	-	F.	

5 Exclusive of 1903 section.

7 1898 9-1900 sections.

6 Exclusive of 1,800 feet at Concord River.

TABLE SHOWING THE HIGHWAYS LAID OUT OR

	TOWN OR CITY.	Year.	ROAD LAID OUT.
			From —
1	Westminster, . . .	1894-5-6-7-8-9, .	Fitchburg line,
2	Westminster, . . .	1903,	Gardner line,
3	West Newbury, . . .	1895-6-7,	Newburyport line,
4	West Newbury, . . .	1903,	Groveland line,
5	West Newbury, . . .	1904,	End of 1903 section,
6	Weston,	1898-9,	Wayland line to near Stony Brook, .
7	Westport,	1894-96-7-8,	Dartmouth line,
8	West Springfield, . . .	1895-6,	Top of Tatham Hill,
9	West Tisbury,	1895-6-7,	Tisbury line,
10	West Tisbury,	1904,	End of 1897 section to Chilmark line, .
11	Westwood,	1899-1900,	Norwood line to Dedham line, . . .
12	Weymouth,	1894,	Holbrook line to Abington line, . . .
13	Weymouth,	1895-6-7,	Fore River to Back River,
14	Weymouth,	1903,	Broad Street,
15	Weymouth,	1904,	End of 1903 section,
16	Whately, ¹	1899-1901-2-3,	Deerfield line,
17	Whately,	1904,	End of 1903 section,
18	Whitman,	1894-5-6,	Brockton line,
19	Wilbraham, ²	1894-5-6-1901-03,	Springfield line,
20	Wilbraham,	1904,	End of 1903 section to Palmer line, .
21	Williamsburg,	1896-8-1901-03,	Goshen line,
22	Williamstown,	1895-6-98-1903,	North Adams line,
23	Winchester,	1899-1900,	Arlington line to Woburn line, . . .
24	Windsor,	1897-1902-3,	Cummington line,
25	Woburn,	1900-1-2,	Winchester line to Burlington line, .
26	Worcester,	1896-7,	Paxton line,
27	Worcester,	1897-1903,	Holden line,
28	Worcester,	1900,	West Boylston line,
29	Wrentham,	1894-5-99-1900-1,	Plainville,
30	Wrentham,	1897-8-1902,	Norfolk line,
31	Yarmouth (north), . . .	1894-5-6,	Barnstable line to Dennis line, . . .
32	Yarmouth (south), . . .	1895-6-7,	Barnstable line to Bass River bridge, .

¹ Exclusive of 375 feet at railroad crossing. ² Exclusive of 1,763 feet at Wilbraham village.

CONTRACTED FOR BY THE COMMISSION, ETC. — *Concluded.*

ROAD LAID OUT.		Length Con- structed.	WIDTHS.			Material of Road Surface.	
Direction.	Length.		Location.	Macadam.	Shoulders.		
	Miles.	Miles.	Feet.	Feet.	Feet.		
South-westerly, .	3.00	3.00	50-60	15	3	D-C.	1
Easterly, . . .	2.25	2.25	66±	-	-	F.	2
Westerly, . . .	2.24	2.24	50-110	15	3-4.5	A-D.	3
North-easterly, .	.27	.27	50	15	-	A.	4
North-easterly, .	.32	-	50±	-	-	-	5
Easterly, . . .	3.15	3.15	50	18	-	C-B.	6
Easterly, . . .	4.25	4.25	66-80	18	3	C-B.	7
Easterly, . . .	1.53	1.53	50-135	18	3	A.	8
South-westerly, .	2.84	2.84	50	15-12-10	3	B.	9
South-westerly, .	2.51	2.51	40-50-40+	12-15	-	B.	10
Northerly, . . .	1.05	1.05	45-55-60	15	3	B.	11
Easterly, . . .	.25	.25	50	15	3	B.	12
Easterly, . . .	1.75	1.75	50-125	15-18	3	A-B-C.	13
Southerly, . . .	1.69	1.69	60-66	20-18-15	-	B-F.	14
Southerly, . . .	1.11	1.11	60-80	15	-	B-F.	15
South-westerly, .	2.29	2.29	50-50±	12	-	A.	16
Southerly, . . .	.51	.51	50	12	-	A.	17
Easterly, . . .	1.70	1.70	45	18	4	B.	18
Easterly, . . .	3.62	3.62	50-79	15	3	A-G.	19
Easterly, . . .	1.19	1.15	50±	15	-	B.	20
South-easterly, .	2.65	2.65	50	15	-	B-F-1903-N.	21
Westerly, . . .	1.95	1.95	50-60-70	15	3	A-D.	22
North-easterly, .	1.96	1.96	50	15-20-21	-	C.	23
Westerly, . . .	.98	.98	50-50±	-	-	F.	24
North-westerly, .	2.03	2.03	40-50	15	-	G-C-B.	25
South-easterly, .	1.35	1.35	50	15	3	B.	26
Southerly, . . .	1.50	1.50	50	15	3 3	B.	27
South-westerly, .	.54	.54	50	15	3	A.	28
Northerly, . . .	4.02	4.02	26-50	15	4 3	B.	29
South-easterly, .	1.86	1.86	50	15	3	B-A.	30
Easterly, . . .	3.71	3.71	40-60	15	3	B.	31
Easterly, . . .	5.09	5.09	40	15	3	B-C.	32

³ 1897 section.⁴ Excepting 1901 section.

APPENDIX B.

TABLE SHOWING TOWNS AND CITIES IN WHICH WORK HAS BEEN DONE DURING THE YEAR 1904, AND THE
RESIDENT ENGINEERS ON SUCH WORK, TOGETHER WITH DATES OF BEGINNING AND ENDING.

TOWN OR CITY.	County.	Lay-out.	Resident Engineer.	Date of Contract.	Date of Beginning.	Date of Ending.
Agawam, .	Hampden, .	1904	G. R. Brown, .	June 2, 1904,	June 13,	July 27.
Amesbury, .	Essex, .	1903	E. F. Ayres, .	Sept. 3, 1903,	May 9,	Sept. 1.
Amesbury, .	Essex, .	1904	E. F. Ayres, .	Sept. 3, 1903,	June 16,	Sept. 1.
Amherst, .	Hampshire, .	1904	P. H. Everett, .	May 26, 1904,	June 28,	Oct. 1.
Ashland, .	Middlesex, .	1903	G. R. Winslow, .	Nov. 12, 1903,	April 11,	June 18.
Auburn, .	Worcester, .	1904	C. A. Welton, .	Oct. 13, 1904,	Aug. 30,	Dec. 3.
Becket, .	Berkshire, .	1904	A. L. Southworth, .	July 7, 1904,	Aug. 1,	Nov. 10.
Bourne, .	Barnstable, .	1903	H. C. Holden, .	Sept. 24, 1903,	April 4,	April 16.
Bourne, .	Barnstable, .	1904	H. C. Holden, .	June 29, 1904,	July 20,	Sept. 19.
Bridgewater, .	Plymouth, .	1904	H. C. Holden, .	Mar. 3, 1904,	April 5,	Aug. 30.
Brookton, .	Plymouth, .	1904	H. C. Holden, .	June 16, 1904,	July 11,	Aug. 31.
Buckland, .	Franklin, .	1904	P. H. Everett, .	June 16, 1904,	July 5,	Sept. 9.
Burlington, .	Middlesex, .	1904	W. T. Wilson, .	July 28, 1904,	Aug. 30,	Nov. 7.
Burlington, .	Middlesex, .	1904	Dean C. Warren, .	July 28, 1904,	Aug. 4,	Aug. 13.
Chelmsford, .	Middlesex, .	1904	Geo. D. Marshall, .	Sept. 1, 1904,	Sept. 14,	Dec. 1.
Chester, .	Hampden, .	1904	A. L. Southworth, .	Aug. 25, 1904,	Sept. 10,	Nov. 12.
Chicopee, .	Hampden, .	1903	P. H. Everett, .	Oct. 30, 1903,	May 16,	Aug. 31.
Chicopee, .	Hampden, .	1904	P. H. Everett, .	May 19, 1904,	July 5,	Aug. 31.
Dalton, .	Berkshire, .	1904	G. R. Brown, .	June 23, 1904,	July 5,	Sept. 21.
Dartmouth, .	Bristol, .	1903	W. G. Addis, .	Oct. 27, 1904,	Nov. 23,	Dec. 12.
Dennis, .	Barnstable, .	1904	W. P. Hammersley, .	May 19, 1904,	July 5,	Aug. 19.

Douglas, .	Worcester, .	1904	F. H. Morris, .	July 28, 1904,	Aug. 4,	Oct. 15.
Douglas (bridge), .	Worcester, .	1904	F. H. Morris, .	Sept. 22, 1904,	Oct. 3.	Dec. 12.
Dudley, .	Worcester, .	1904	C. A. Welton, .	July 14, 1904,	July 26,	Nov. 10.
Duxbury, .	Plymouth, .	1903	S. Litchfield, Jr., .	Nov. 5, 1903,	April 12,	June 3.
Eastham, .	Barnstable, .	1904	W. P. Hammersley, .	Sept. 15, 1904,	Oct. 8,	Nov. 23.
East Longmeadow, .	Hampden, .	1904	D. H. Winslow, .	May 18, 1904,	May 13,	July 16.
Fairhaven, .	Bristol, .	1894-5	E. F. Ayres, .	Sept. 1, 1904,	Oct. 5,	Oct. 25.
Fairhaven, .	Bristol, .	1894-5	Robert Vesper, .	Sept. 1, 1904,	Oct. 25,	Oct. 29.
Falmouth (north), .	Barnstable, .	1904	C. H. Howes, .	-	June 16,	Nov. 19.
Falmouth (south), .	Barnstable, .	1904	C. H. Howes, .	-	May 10,	Sept. 23.
Fitchburg, .	Worcester, .	1904	L. L. Gerry, .	Sept. 15, 1904,	April 18,	Aug. 12.
Framingham, .	Middlesex, .	1904	G. R. Winslow, .	Sept. 29, 1904,	Oct. 27,	Dec. 14.
Greenfield, .	Franklin, .	1903	P. H. Everett, .	Oct. 8, 1903,	May 9,	July 15.
Groveland, .	Essex, .	1902	E. F. Ayres, .	July 23, 1903,	April 19,	May 17.
Hadley, .	Hampshire, .	1904	P. H. Everett, .	May 26, 1904,	June 28,	Oct. 1.
Harwich, .	Barnstable, .	1903	H. C. Holden, .	June 11, 1903,	April 21,	April 29.
Haverhill, .	Essex, .	1899	C. A. Raymond, .	July 7, 1904,	Aug. 18,	Nov. 1.
Hinsdale, .	Berkshire, .	1903	G. R. Brown, .	Oct. 8, 1904,	May 9,	Aug. 9.
Huntington, .	Hampshire, .	1903	G. R. Brown, .	Sept. 17, 1903,	May 2,	May 21.
Lenox, .	Berkshire, .	1904	G. R. Brown, .	Aug. 4, 1904,	Aug. 15,	Dec. 1.
Leominster, .	Worcester, .	1902	L. L. Gerry, .	July 28, 1904,	Aug. 17,	Sept. 10.
Littleton, .	Middlesex, .	1904	G. W. Sanborn, .	Aug. 11, 1904,	Aug. 30,	Dec. 3.
Lynn, .	Essex, .	1898	E. J. Nichols, .	Nov. 19, 1903,	April 4,	Dec. 31.
Marlborough, .	Middlesex, .	1904	C. A. Raymond, .	May 19, 1904,	Aug. 5,	Dec. 3.
Marshfield, .	Plymouth, .	1904	S. Litchfield, Jr., .	June 16, 1904,	July 7,	Aug. 27.
Middleborough, .	Plymouth, .	1903	H. C. Holden, .	May 26, 1904,	Aug. 1,	Nov. 15.
Middleborough, .	Plymouth, .	1903	H. C. Holden, .	June 18, 1903,	Sept. 6,	Nov. 8.
Middlefield, .	Hampshire, .	-	A. L. Southworth, .	Sept. 29, 1904,	Oct. 10,	Nov. 21.
Millbury, .	Worcester, .	1904	C. A. Welton, .	Aug. 4, 1904,	Aug. 23,	Nov. 15.
Milton, .	Norfolk, .	-	Robert Vesper, .	Oct. 20, 1904,	Nov. 1,	Nov. 30.
Montague, .	Franklin, .	1904	L. L. Gerry, .	Aug. 25, 1904,	Sept. 15,	Nov. 10.
Nantucket, .	Nantucket, .	1903	L. T. C. Loring, .	Sept. 17, 1903,	Jan. 1,	June 7.

TABLE SHOWING TOWNS AND CITIES IN WHICH WORK HAS BEEN DONE, ETC. -- *Concluded.*

TOWN OR CITY.	County.	Lay-out.	Resident Engineer.	Date of Contract.	Date of Beginning.	Date of Ending.
Natick, . . .	Middlesex, . . .	1903	G. R. Winslow, . . .	Sept. 10, 1903,	May 10,	Nov. 21.
New Braintree, . . .	Worcester, . . .	1903	H. D. Phillips, . . .	Nov. 5, 1904,	April 20,	Aug. 20.
Newbury, . . .	Essex, . . .	1904	C. H. Norton, . . .	Aug. 18, 1904,	Sept. 6,	Nov. 9.
North Andover, . . .	Essex, . . .	1904	C. A. Raymond, . . .	July 14, 1904,	July 19,	Sept. 3.
Northborough, . . .	Worcester, . . .	1904	G. R. Winslow, . . .	Aug. 4, 1904,	Sept. 9,	Nov. 28.
North Reading, . . .	Middlesex, . . .	1903	G. D. Marshall, . . .	Mar. 31, 1904,	April 4,	Sept. 1.
Norton, . . .	Bristol, . . .	1903	H. C. Holden, . . .	July 7, 1904,	-	-
Orange, . . .	Franklin, . . .	1904	L. L. Gerry, . . .	May 26, 1904,	June 7,	Sept. 10.
Orleans (east), . . .	Barnstable, . . .	1904	W. P. Hammersley, . . .	June 3, 1904,	June 22,	Aug. 15.
Orleans (P. B.), . . .	Barnstable, . . .	1904	W. P. Hammersley, . . .	June 9, 1904,	Sept. 19,	Nov. 15.
Pittsfield, . . .	Berkshire, . . .	1904	G. R. Brown, . . .	Aug. 25, 1904,	Aug. 29,	Nov. 24.
Princeton, . . .	Worcester, . . .	1903	A. D. Dadley, . . .	-	April 11,	July 8.
Provincetown, . . .	Barnstable, . . .	1903	H. C. Holden, . . .	Aug. 27, 1903,	April 19,	May 21.
Quincy, . . .	Norfolk, . . .	1904	S. Litchfield, Jr., . . .	Aug. 25, 1904,	Sept. 6,	Dec. 16.
Reading, . . .	Middlesex, . . .	1903	G. D. Marshall, . . .	Mar. 31, 1904,	April 4,	Sept. 1.
Rehoboth, . . .	Bristol, . . .	1894-5	C. H. Norton, . . .	April 7, 1904,	June 2,	July 2.
Rehoboth, . . .	Bristol, . . .	1903	C. H. Norton, . . .	Sept. 17, 1903,	June 7,	June 29.
Richmond, . . .	Berkshire, . . .	1904	G. R. Brown, . . .	June 9, 1904,	Aug. 22,	Nov. 12.
Salisbury, . . .	Essex, . . .	1904	C. H. Norton, . . .	Sept. 8, 1904,	Sept. 19,	Dec. 14.
Scituate, . . .	Plymouth, . . .	1903	S. Litchfield, Jr., . . .	Dec. 3, 1903,	April 11,	May 28.
Seekonk, . . .	Bristol, . . .	1904	W. G. Addis, . . .	June 23, 1904,	June 27,	Nov. 11.
Shrewsbury, . . .	Worcester, . . .	1904	G. R. Winslow, . . .	July 28, 1904,	Aug. 25,	Dec. 7.
Somerset, . . .	Bristol, . . .	1895-6	C. H. Norton, . . .	July 14, 1904,	Aug. 3,	Aug. 16.
Somerset, . . .	Bristol, . . .	1904	W. G. Addis, . . .	Sept. 1, 1904,	Oct. 4,	Dec. 20.
Southborough, . . .	Worcester, . . .	1903	C. A. Welton, . . .	Nov. 5, 1903,	May 10,	July 23.
South Hadley, . . .	Hampshire, . . .	1904	P. H. Everett, . . .	Sept. 8, 1904,	Sept. 17,	Nov. 17.
Stoughton, . . .	Norfolk, . . .	1903	H. C. Holden, . . .	Nov. 5, 1903,	May 17,	June 28.

Stoughton,	.	.	Norfolk,	.	.	1904	H. C. Holden,	.	Sept.	1, 1904,	Sept. 12,	Nov. 15.
Sutton,	.	.	Worcester,	.	.	1904	F. H. Morris,	.	July	14, 1904,	Aug. 15,	Oct. 26.
Tewksbury,	.	.	Middlesex,	.	.	1904	G. D. Marshall,	.	Aug.	17, 1903,	May 16,	June 9.
Townsend,	.	.	Middlesex,	.	.	1901	L. L. Gerry,	.	May	26, 1904,	June 3,	July 2.
Wellfleet,	.	.	Barnstable,	.	.	1904	W. P. Hammersley,	.	June	2, 1904,	Aug. 24,	Dec. 10.
Westborough,	.	.	Worcester,	.	.	1903	C. A. Welton,	.	Dec.	10, 1904,	July 6,	Nov. 25.
West Bridgewater,	.	.	Plymouth,	.	.	1904	H. C. Holden,	.	May	26, 1904,	Aug. 1,	Sept. 24.
Westminster,	.	.	Worcester,	.	.	1903	L. L. Gerry,	.	Sept.	3, 1903,	June 3,	Sept. 13.
West Newbury,	.	.	Essex,	.	.	1903	E. F. Ayres,	.	July	23, 1903,	April 19,	May 17.
Westport,	.	.	Bristol,	.	.	1894	C. H. Norton,	.	July	7, 1904,	July 11,	Aug. 7.
West Springfield,	.	.	Hampden,	.	.	1895-6	A. L. Southworth,	.	Aug.	11, 1904,	Aug. 2,	Sept. 12.
West Tisbury (1),	.	.	Dukes,	.	.	1904	L. T. C. Loring,	.	Mar.	31, 1904,	Jan. 1,	May 8.
West Tisbury (2),	.	.	Dukes,	.	.	1904	L. T. C. Loring,	.	Nov.	10, 1904,	May 8,	Sept. 24.
Weymouth,	.	.	Norfolk,	.	.	1903	S. Litchfield, Jr.,	.	Nov.	12, 1903,	May 31,	Dec. 5.
Weymouth,	.	.	Norfolk,	.	.	1904	S. Litchfield, Jr.,	.	Sept.	15, 1904,	Oct. 25,	Dec. 5.
Whately,	.	.	Franklin,	.	.	1903	P. H. Everett,	.	Aug.	6, 1903,	May 9,	May 21.
Whately,	.	.	Franklin,	.	.	1904	P. H. Everett,	.	June	9, 1904,	June 20,	Aug. 13.
Wilbraham,	.	.	Hampden,	.	.	1904	D. H. Winslow,	.	Aug.	4, 1904,	Aug. 24,	Nov. 22.
Williamsburg,	.	.	Hampshire,	.	.	1903	P. H. Everett,	.	July	16, 1903,	June 15,	July 2.
Worcester,	.	.	Worcester,	.	.	1903	C. A. Welton,	.	Sept.	3, 1903,	May 2,	May 10.

APPENDIX C.

SHOWING CONTRACT PRICES ON

	TOWN OR CITY.	Contract Number.	Contractor.	EXCAVATION.			Portland Cement Concrete Masonry.	Shaping (Square Yard).
				All Kinds (Cubic Yard).	Borrow (Cubic Yard).	Ledge (Cubic Yard).		
1	Agawam, . . .	809	Flynt Granite Co., .	\$0 30	\$0 40	-	{ \$4 00 8 00 }	\$0 03
2	Auburn, . . .	840	Amos D. Bridge, . .	50	60	\$3 00	10 00	03
3	Becket, . . .	821	Olin T. Benedict, . .	50	70	3 00	{ 15 00 8 00 }	-
4	Bellingham, . .	864	Lane Construction Corp.,	40	40	1 50	8 00	03
5	Bourne, . . .	820	Town,	30	35	2 00	9 00	03
6	Bridgewater, . .	791	Warren R. Keith, . .	40	60	3 00	7 00	03
7	Brockton, . . .	815	City,	35	55	2 00	8 00	02½
8	Buckland, . . .	816	D. T. & A. G. Perry, .	40	50	2 00	4 50	03
9	Burlington, . .	830	Edward J. Rourke, . .	40	50	1 25	8 00	03
10	Chelmsford, . .	848	M. Carchia & Son, . .	34	43	1 25	6 25	02½
11	Chelsea, ¹² . . .	868	City,	-	-	-	-	-
12	Chester, . . .	844	Hammond & Walsh, . .	35	50	2 00	7 50	-
13	Chicopee, . . .	801	City,	40	60	-	8 00	03
14	Dalton, . . .	818	Hammond & Walsh, . .	40	59	3 00	8 00	03
15	Dartmouth, . .	865	Joseph McCormick, . .	40	45	2 00	9 00	03
16	Deerfield, . . .	866	David T. Perry, . . .	35	42	-	8 00	02
17	Dennis, . . .	802	William Sears, . . .	30	40	-	10 00	03
18	Douglas, . . .	831	Lane Construction Corp.,	45	50	1 00	8 00	03
19	Douglas (bridge), ¹³	857	Bell Engineering and Construction Co.	-	-	-	-	-
20	Dudley, . . .	825	Ferranti & Maguire, . .	60	60	2 00	9 00	03
21	Eastham, . . .	854	Fred E. Ellis, . . .	50	-	-	8 00	03
22	East Longmeadow,	800	Amos D. Bridge, . . .	30	-	50	8 00	03
23	Fitchburg, . . .	855	City,	60	45	2 00	12 50	03

¹ Class D masonry.² Ten-inch clay pipe.³ Screened gravel.⁴ Fifteen-inch clay pipe.⁵ Ten-inch iron pipe.⁶ Fourteen-inch iron pipe.⁷ Rock embankment.⁸ Stone from Cohasset quarries.

APPENDIX C.

STATE ROADS DURING 1904.

BROKEN STONE.		PIPE CULVERTS (PER LINEAL FOOT).						Fencing (Lineal Foot).	Side Drains (Lineal Foot).	Stone Filling for Under- drains (per Cubic Yard).	Bounds (Each).	Catch-basins (Each).	
Local (Ton).	Trap (Ton).	CLAY.			IRON.								
		Twelve-inch.	Eighteen- inch.	Twenty-four- inch.	Twelve-inch.	Eighteen- inch.	Twenty-four- inch.						
-	\$1 90	² \$0 50	-	-	-	-	-	\$0 25	-	-	\$1 50	\$20 00	1
-	2 10	-	-	-	-	-	-	25	³ \$1 32	\$1 25	2 00	-	2
-	-	²⁷⁵ 1 00	⁴ \$1 25 1 50	⁶ \$2 50	⁵ \$1 60 2 00	⁸ \$3 50	⁶ \$2 50	25	⁷ 1 50	-	2 00	25 00	3
\$1 30	-	75	-	-	1 75	-	-	25	-	-	1 50	-	4
-	⁸ 2 05	75	⁹ 50	²⁶⁵	-	-	-	25	-	¹⁰ 45	1 50	25 00	5
1 30	-	1 00	-	-	2 00	¹¹³ 00	-	25	40	50	1 50	25 00	6
1 63	-	70	⁴ 1 00	-	1 50	-	-	25	-	-	2 00	30 00	7
-	2 20	-	-	-	-	-	-	22	-	1 10	1 50	-	8
1 50	-	75	1 25	⁴¹ 00	2 00	¹¹ 2 50	-	25	-	-	2 00	25 00	9
-	2 20	57	-	1 75	-	-	-	20	-	-	2 00	23 00	10
-	-	-	-	-	-	-	-	-	-	-	-	-	11
-	1 60	65	²⁶⁰	-	1 75	3 00	⁵ 1 50	20	-	-	1 50	20 00	12
-	2 10	75	⁹⁵⁰	-	2 50	-	-	-	-	-	1 50	-	13
-	1 75	-	-	-	⁵¹ 50	3 00	-	25	40	60	1 50	-	14
1 29	-	65	-	-	-	-	-	25	-	-	2 00	20 00	15
-	1 80	60	-	-	2 00	-	-	-	-	-	1 50	25 00	16
-	2 30	⁹ 60	²⁷⁰	-	-	-	-	25	-	-	2 00	25 00	17
1 50	-	75	-	2 50	2 00	-	-	25	-	-	2 00	-	18
-	-	-	-	-	-	-	-	-	-	-	-	-	19
-	2 20	⁴¹ 20	-	-	¹¹³ 00	-	-	25	¹⁴³⁵	-	2 00	-	20
1 10	-	⁹ 50	-	-	-	-	-	25	-	¹⁰ 50	1 50	25 00	21
-	1 78	-	-	-	-	-	-	25	-	70	1 50	-	22
1 55	-	70	-	-	1 50	-	-	25	-	60	2 00	-	23

⁹ Eight-inch clay pipe.

¹¹ Sixteen-inch iron pipe.

¹³ Lump sum, \$1,408.34.

¹⁰ Clay hardening for sub-grade.

¹² Lump sum, \$6,000.

¹⁴ Blind drains.

SHOWING CONTRACT PRICES ON

	TOWN OR CITY.	Contract Number.	Contractor.	EXCAVATION.			Portland Cement Concrete Masonry.	Shaping (Square Yard).
				All Kinds (Cubic Yard).	Borrow (Cubic Yard).	Ledge (Cubic Yard).		
1	Framingham, . . .	858	Town,	\$0 55	\$0 60	\$2 00	\$8 00	\$0 03
2	Hadley,	804	Town,	45	42	1 75	7 50	03
3	Haverhill,	822	Edward Adams, . . .	-	-	-	-	-
4	Lenox,	835	William H. Mague, . .	35	60	2 00	7 00	02
5	Leominster,	834	Fred E. Ellis,	-	-	-	-	-
6	Littleton,	841	David Hall,	43	50	1 50	8 00	-
7	Marlborough,	803	City,	50	60	2 00	7 00	03
8	Marshfield,	817	Ferranti & Maguire, . .	35	42	1 00	8 00	03
9	Middleborough, ⁹	805	Town,	-	-	-	-	-
10	Middlefield,	859	Town,	60	{ ¹⁰⁷⁵ 50}	1 50	5 00	-
11	Milford,	871	Snow & Farrington, . .	40	40	1 50	6 50	02
12	Millbury,	836	Town,	40	45	1 75	8 00	03
13	Montague,	845	Olin T. Benedict, . . .	40	50	-	8 00	02
14	Newbury,	843	James E. Watkins, . . .	40	49	1 00	8 00	02½
15	North Andover,	826	Edward Adams,	50	50	-	7 00	02
16	Northborough,	837	Ferranti & Maguire, . .	35	55	2 00	9 00	03
17	Orange,	806	M. L. Camarco,	30	35	2 25	6 50	02
18	Orleans,	811	Town,	25	35	-	8 00	03
19	Orleans,	812	Town,	25	35	2 00	8 00	03
20	Phillipston,	872	Town,	40	50	2 00	8 00	03
21	Pittsfield,	846	John W. Polcaro,	42	60	75	7 00	-
22	Plymouth,	873	Warren R. Keith,	35	45	3 00	10 00	03
23	Quincy,	847	Richmond F. Hudson, . .	50	70	2 00	8 00	02
24	Reading-North Reading.	796	Richmond F. Hudson, . .	35	55	1 00	8 00	03
25	Reading-North Reading (bridge), ²⁰	856	Aberthaw Construction Co.	-	-	-	-	-
26	Richmond,	813	Town,	45	50	2 00	{ ²¹ 12 00 ²² 7 00 6 00}	-
27	Rutland,	874	Bruno & Milano,	32	-	1 65	8 00	03
28	Salisbury,	852	Thomas F. O'Neil,	29	35	1 50	6 00	02
29	Seekonk,	819	Town,	35	45	2 00	8 00	03
30	Shrewsbury,	833	Joseph McCormick, . . .	50	60	3 00	6 50	03
31	Somerset,	849	Town,	40	45	2 00	8 00	03

¹ Stone from Mattoon Hill.⁵ Fifteen-inch iron pipe.⁹ Lump sum, \$6,872.² Ten-inch clay pipe.⁶ Gravel.¹⁰ River-bed excavation.³ Fifteen-inch clay pipe.⁷ Eight-inch clay pipe.¹¹ Moving bridge.⁴ Ten-inch iron pipe.⁸ Six-inch clay pipe to be relaid.¹² Raising grade of bridge.

STATE ROADS DURING 1904 — *Continued.*

BROKEN STONE.		PIPE CULVERTS (PER LINEAL FOOT).						Fencing (Lineal Foot).	Side Drains (Lineal Foot).	Stone Filling for Under-drains (per Cubic Yard).	Bounds (Each).	Catch-basins (Each).	
Local (Ton).	Trap (Ton).	CLAY.			IRON.								
		Twelve-inch.	Eighteen-inch.	Twenty-four-inch.	Twelve-inch.	Eighteen-inch.	Twenty-four-inch.						
\$1 10	-	\$0 75	\$1 10	-	\$2 00	-	-	\$0 25	-	\$0 85	\$1 50	-	1
-	\$1 74	-	-	-	-	-	-	25	-	-	2 00	-	2
1 38	-	-	-	-	-	-	-	-	-	-	-	-	3
¹ 1 37	-	60	² 50	³ \$0 90	2 25	⁴ \$2 00	-	25	-	75	2 00	\$25 00	4
-	2 75	-	-	-	-	-	-	-	\$0 55	-	-	-	5
-	-	65	³ 1 25	-	1 75	⁵ 2 45	-	25	40	⁶ 72 ¹ / ₂ ⁷ 75	1 50	-	6
1 55	-	75	1 40	³ 1 00	2 00	-	-	25	40	-	2 00	-	7
1 38	-	60	² 50 ⁷ 40	³ 90 ⁸ 25	-	-	-	25	-	-	1 50	23 00	8
-	-	-	-	-	-	-	-	-	-	-	-	-	9
-	-	-	-	-	-	-	-	-	-	-	¹¹ 150 00	¹² 50 00	10
1 28	-	75	1 25	-	2 25	-	-	25	-	-	1 25	-	11
1 45	-	70	1 10	-	-	-	-	25	45	75	1 50	25 00	12
1 10	2 25	1 00	-	-	2 00	-	-	25	-	-	2 00	-	13
1 42 ¹ / ₂	-	70	-	-	¹³ 2 60	-	-	25	-	-	1 50	-	14
-	2 05	-	-	-	-	-	-	25	-	-	2 00	25 00	15
1 39	-	70	³ 1 20	-	2 00	-	-	25	-	-	2 00	-	16
-	1 91	95	-	-	2 50	-	-	30	-	-	1 95	-	17
1 52	-	² 60	⁷ 45	-	-	-	-	25	-	¹⁴ 50	1 00	25 00	18
1 80	-	⁷ 45	-	-	-	-	-	25	-	-	1 00	25 00	19
1 40	-	75	-	-	2 50	-	-	25	-	80	1 50	25 00	20
-	-	70	⁷ 40 ³ 1 00	¹⁵ 1 40	2 25	⁴ 2 00	-	20	40	¹⁶ 33 ⁵ 55	2 00	-	21
1 50	-	65	² 60	¹⁷ 10	-	-	-	25	¹⁸ 20	-	1 00	25 00	22
1 30	-	70	² 60	⁷ 50	-	-	-	25	40	¹⁹ 40	2 00	20 00	23
1 40	-	² 60 70	³ 1 10 1 50	2 50	2 00	¹³ 3 00	-	25	40	-	2 00	20 00	24
-	-	-	-	-	-	-	-	-	-	-	-	-	25
-	-	-	-	-	⁴ 1 75	-	-	20	45	²³ 1 10	1 50	-	26
1 25	-	60	1 60	³ 1 20	2 00	-	-	25	-	55	1 50	-	27
1 23	-	⁷ 40	-	-	-	-	-	29	-	-	75	20 00	28
1 35	-	⁷ 50	² 65	-	-	-	-	25	-	65	1 50	25 00	29
1 48	-	65	-	-	1 75	-	-	25	50	-	1 50	-	30
1 50	-	⁷ 50 75	² 65 1 50	³ 1 10	-	-	-	25	-	-	1 50	25 00	31

¹³ Sixteen-inch iron pipe.

¹⁴ Clay hardening for sub-grade.

¹⁵ Twenty-inch clay pipe.

¹⁶ Telford.

¹⁷ Twelve-inch clay pipe to be relaid.

¹⁸ Cobble stone paving to be relaid.

¹⁹ Cobble-stone gutters.

²⁰ Lump sum, \$4,244.

²¹ Class A masonry.

²² Class B masonry.

²³ Screened gravel.

SHOWING CONTRACT PRICES ON

	TOWN OR CITY.	Contract Number.	Contractor.	EXCAVATION.			Portland Cement Concrete Masonry.	Shaping (Square Yard).
				All Kinds (Cubic Yard).	Borrow (Cubic Yard).	Ledge (Cubic Yard).		
1	South Hadley, ..	851	Cowles, Childs & Dayton,	\$0 41	\$0 35	\$3 00	\$8 00	\$0 03
2	Stoughton, . .	850	Ferranti & Maguire, .	35	40	1 00	9 00	03
3	Sunderland, . .	860	Town,	40	50	-	8 00	03
4	Sutton, . . .	828	Town,	40	40	1 75	8 00	02
5	Tewksbury, . .	842	Town,	50	50	2 00	8 00	03
6	Townsend, . .	807	Ferranti & Maguire, .	39	44	2 00	7 50	03
7	Wellfleet, ⁸ . .	810	Town,	-	-	-	-	-
8	West Bridgewater,	808	Warren R. Keith, . .	35	55	3 00	7 00	03
9	West Tisbury, .	797	Town,	40	40	2 00	8 00	03
10	West Tisbury, ¹¹ .	869	Town,	-	-	-	-	-
11	Weymouth, . .	861	Town,	50	50	-	8 00	03
12	Whately, . . .	814	James Cosgrove, . .	23	45	50	6 90	02
13	Wilbraham, . .	838	Richmond F. Hudson, .	40	60	2 00	8 00	03

¹ Eight-inch clay pipe.³ Eight-inch clay pipe to be relaid.⁵ Cobble-stone gutters.² Fifteen-inch clay pipe.⁴ Eight-inch iron pipe.⁶ Gravel.

STATE ROADS DURING 1904 — *Concluded.*

BROKEN STONE.		PIPE CULVERTS (PER LINEAL FOOT).						Fencing (Lineal Foot).	Side Drains (Lineal Foot).	Stone Filling for Under- drains (per Cubic Yard).	Bounds (Each).	Catch-basins (Each).	
Local (Ton).	Trap (Ton).	CLAY.			IRON.								
		Twelve-inch.	Eighteen- inch.	Twenty-four- inch.	Twelve-inch.	Eighteen- inch.	Twenty-four- inch.						
-	\$1 65	¹ \$0 50	² \$1 00	³ \$0 30	⁴ \$1 25	-	-	-	⁵ \$0 90	\$0 65	\$1 50	\$20 00	1
\$1 36	-	75	1 25	-	-	-	-	\$0 25	-	-	2 00	25 00	2
-	2 00	140	750	-	-	-	-	25	-	-	1 50	-	3
1 48	-	-	-	-	-	-	-	25	-	-	1 50	-	4
1 65	-	75	1 40	¹⁵⁵	-	\$2 90	-	30	-	-	1 50	25 00	5
-	1 79	65	-	-	2 00	-	-	30	-	-	-	-	6
-	-	-	-	-	-	-	-	-	-	-	-	-	7
1 40	-	-	² 1 25	-	-	-	-	25	-	-	1 50	-	8
1 20	⁹⁶⁰	150	-	-	-	-	-	-	-	¹⁰ 50 00	1 50	25 00	9
-	⁹⁶⁰	-	-	-	-	-	-	-	-	-	-	-	10
1 40	-	70	145	²¹ 00	¹²¹ 00	-	-	-	-	⁶⁸⁵	1 50	25 00	11
-	1 78	70	-	-	2 00	-	-	22	-	-	1 10	-	12
1 35	-	80	-	-	-	-	-	25	-	75	2 00	-	13

⁷ Ten-inch clay pipe.

⁸ Lump sum, \$6,000.

⁹ Surplus No. 3 stone or screenings.

¹⁰ Lump sum for grubbing.

¹¹ Lump sum, \$5,875.

¹² Six-inch iron pipe.

APPENDIX D.

STATEMENT OF CLAIMS AGAINST THE COMMISSION.

[As required by Section 5, Chapter 18 of the Revised Laws.]

NAME.	Residence.	Nature of Claim.
Alvord, Edwin H., ¹	Chester,	Damages due to construction of State road in Chester.
Chace, Charles A.,	Somerset,	Damages caused by drainage conditions on State highway.
Crowell, T. H., ¹	Somerville,	Damages caused by construction of State highway at Chatham.
Daly, Julia M., ¹	Abington,	Damages caused by construction of State highway at Abington.
Davis, Charles H., ^{1,2}	Somerset,	Damages caused by construction of State highway at Somerset.
Donovan, J. H., ¹	Natick,	Damages caused by construction of State highway at Natick.
Dow, Clara B., ²	Amesbury,	Damages due to road construction at Amesbury.
Dow, Granville S.,		
Fisher, Caroline F., ^{1,2}	Marlborough,	Damages caused by construction of State highway at Marlborough.
Flanders, Betsey B., <i>et al.</i> , ²	Amesbury,	Damages caused by construction of State highway at Amesbury.
Flanders, Betsey B.,		
Griffin, John, <i>et al.</i> ,	Natick,	Damages caused by construction of State highway at Natick.
Haas, Mary A., <i>et al.</i> , ³	Shrewsbury,	Damages caused by taking of land at Shrewsbury.
Hagerty, Hannah,	Somerville,	Damages due to alleged accident at Saugus.
Hafey, James J., ¹	Chicopee,	Damages due to construction of State highway at Chicopee.
Hale, Francis J., ^{1,2}	-	Damages due to construction of State highway at Deerfield.
Hudson Co-operative Bank, ²	Hudson,	Damages due to construction of State highway at Marlborough.
Loring, John S., ^{1,2}	Northborough,	Damages due to construction of State highway at Northborough.
Lynch, George, <i>et al.</i> , ¹	Somerset,	Damages due to construction of State highway at Somerset.
McIntyre, Bernard, ¹	Abington,	Damages due to construction of State highway at Abington.
Murray, John B.,	Somerville,	Damages due to alleged accident on State highway at Saugus.
Pierce, Alice,	Topsfield,	Damages due to alleged accident on State highway at Wenham.
Richards, John M., ¹	Quincy,	Damages due to construction of State highway at Quincy.
Salem Savings Bank,	Salem,	Damages caused by taking of land at Lynn.
Seabury, Phœbe W.,	Dartmouth,	Damages caused by construction of State highway at Dartmouth.
Sullivan, Timothy J., ³	Shrewsbury,	Damages caused by taking of land at Shrewsbury.
Temple, Theodore, ^{1,2}	Marlborough,	Damages caused by construction of State highway at Marlborough.
Thimineur, Joseph, ¹	Marlborough,	Damages caused by construction of State highway at Marlborough.
Twiss, Michael F., ³	Shrewsbury,	Damages caused by taking of land at Shrewsbury.
Waite, Myra J., ^{1,2}	Deerfield,	Damages caused by construction of State highway at Deerfield.
Warren, Alice E. M., ¹	Auburn,	Damages caused by construction of State highway at Auburn.
Wellington, Margaret J., ²	Braintree,	Damages caused by construction of State highway at Braintree.

¹ The municipality is defending the action.² Settled.³ Award to be paid by the Boston & Worcester Street Railway Company.

APPENDIX E.

COST PER MILE OF ROAD (SECTIONS COMPLETED DURING THE
YEAR 1904).¹

TOWN OR CITY.	Square Yards.	Miles.	Cost per Mile.
Agawam,	4,000	.455	\$8,956 44
Amesbury,	11,443	1.300	7,057 94
Ashland, ²	12,962	1.473	1,755 05
Auburn,	6,677	.759	8,993 77
Becket, ³	10,820	.787	4,935 70
Bourne, 1903,	8,442	.959	1,797 38
Bourne, 1904,	5,898	.670	6,240 87
Bridgewater,	12,000	1.364	6,745 99
Brockton,	5,828	.662	5,554 75
Buckland,	3,067	.436	8,009 17
Burlington,	8,357	.950	7,352 38
Chester,	11,443	1.300	3,556 90
Chicopee, 1903, ⁴	3,934	.373	12,314 50
Chicopee, 1904, ⁴	3,994	.378	11,297 62
Dalton,	4,500	.511	6,455 15
Dennis,	3,963	.450	8,529 80
Douglas,	5,688	.646	7,291 32
Dudley,	4,065	.463	10,133 57
Duxbury,	6,917	.786	6,785 11
Eastham,	7,500	.852	3,629 17
East Longmeadow,	5,152	.585	8,056 63
Fitchburg,	8,350	.949	7,680 76
Greenfield,	3,583	.407	8,713 98
Hadley,	7,928	.901	13,260 32
Haverhill, ⁵	18,272	2.076	3,109 83
Hinsdale,	2,951	.335	11,583 46
Huntington,	4,605	.523	8,314 53
Leominster, ⁶	4,000	.455	5,968 46

¹ Exclusive of cost of bridges and engineering charges.² Gravel road.⁴ Macadam 18 feet in width.³ Grading.⁵ 1899 section macadamized.⁶ 1902 section macadamized.

COST PER MILE OF ROAD, ETC. — *Concluded.*

TOWN OR CITY.	Square Yards.	Miles.	Cost per Mile.
Marlborough,	8,722	.991	\$6,273 11
Marshfield,	7,083	.805	4,586 61
Middleborough,	17,440	1.982	3,620 14
Millbury,	6,377	.725	7,853 55
Montague,	7,452	.847	5,744 11
Nantucket,	5,252	.597	7,082 78
Natick,	18,167	2.064	5,901 84
New Braintree, ¹	1,928	.223	4,328 47
Newbury,	6,168	.701	5,885 38
North Andover,	1,898	.216	7,863 70
Orange,	7,500	.852	8,493 12
Orleans (Eastham),	6,052	.688	4,122 02
Orleans (Pleasant Bay), ²	5,148	.731	3,771 38
Pittsfield,	6,678	.759	8,031 60
Provincetown,	7,783	.884	4,373 41
Reading-North Reading,	17,485	1.987	6,494 13
Richmond, ¹	2,917	.331	6,926 13
Scituate,	6,583	.748	5,493 68
Seekonk,	11,940	1.185	5,739 44
Southborough, ¹	6,697	.761	3,739 78
South Hadley,	7,500	.739	4,981 38
Stoughton, 1903,	3,592	.408	6,828 89
Stoughton, 1904,	7,333	.833	4,633 42
Sutton,	3,060	.348	4,326 81
Swansea,	2,652	.301	2,936 98
Tewksbury,	13,178	1.498	6,125 64
Townsend,	4,333	.492	6,147 74
Westborough, ¹	12,833	1.458	3,231 46
West Bridgewater,	3,702	.421	5,162 80
Westminster, ¹	19,833	2.254	4,178 02
West Tisbury,	7,000	.994	3,415 67
Weymouth,	16,927	1.691	4,177 70
Whately, 1903, ²	3,400	.483	8,370 35
Whately, 1904, ²	3,600	.511	7,815 26
Williamsburg, ³	4,715	.536	4,685 26
Totals,	469,267	52.849	-
Average cost per mile,			\$5,750 44

¹ Gravel road.² Macadam 12 feet in width.³ Grading.

APPENDIX F.

MAINTENANCE.

Table showing the Amounts expended for Repairs and Maintenance and the Cost per Mile per Year on Each Road finished previous to 1904; also the Number of Miles of Road under Maintenance and the Amounts to be assessed upon Municipalities for Maintenance under Chapter 47 of the Revised Laws.

TOWN OR CITY.	Expended to 1904.	Expended in 1904.	Total.	Total Cost per Mile per Year.	Expended per Mile in 1904.	Length under Maintenance (Miles).	Amount to be assessed on Cities or Towns.
Abington, . . .	\$131 49	\$83 88	\$215 37	\$46 52	\$48 57	1.727	\$83 88
Acton, . . .	501 65	132 81	634 46	37 30	29 97	4.431	132 81
Acushnet, . . .	986 74	135 35	1,122 09	106 97	39 86	3.396	135 35
Adams, . . .	463 35	16 95	480 30	12 41	29 84	.568	16 95
Agawam, . . .	3 19	5 46	8 65	8 65	4 75	1.150	5 46
Amesbury, . . .	439 74	60 50	500 24	125 69	26 97	2.243	60 50
Amherst, . . .	49 48	24 92	74 40	33 67	25 66	.971	24 92
Andover, . . .	1,400 26	158 91	1,559 17	76 58	37 91	4.192	158 91
Ashby, . . .	2,481 48	195 53	2,677 01	101 78	54 75	3.571	178 55
Ashfield, . . .	1,177 91	114 97	1,292 88	132 19	71 50	1.608	80 40
Ashland, . . .	-	51 20	51 20	83 93	34 76	1.473	51 20
Athol, . . .	4,908 53	574 10	5,482 63	399 32	258 14	2.224	111 20
Attleborough, . . .	457 33	58 89	516 22	67 92	22 21	2.651	58 89
Auburn, . . .	1,825 58	205 06	2,030 64	86 97	50 61	4.052	202 60
Barnstable, . . .	978 59	393 19	1,371 78	86 33	92 30	4.260	213 00
Barre, . . .	415 33	139 00	554 33	49 94	48 08	2.891	139 00
Becket, . . .	14 46	5 07	19 53	29 15	4 76	1.066	5 07
Bedford, . . .	81 09	74 38	155 47	35 02	66 59	1.117	55 85
Belchertown, . . .	249 79	7 01	256 80	67 23	5 11	1.372	7 01
Bellingham, . . .	4 82	4 18	9 00	11 11	11 03	.379	4 18
Beverly, . . .	2,654 38	412 33	3,066 71	202 42	205 14	2.010	100 50
Blackstone, . . .	319 52	159 08	478 60	80 44	91 37	1.741	87 05

Table showing the Amounts expended for Repairs, etc. — Continued.

TOWN OR CITY.	Expended to 1904.	Expended in 1904.	Total.	Total Cost per Mile per Year.	Expended per Mile in 1904.	Length under Maintenance (Miles).	Amount to be assessed on Cities or Towns.
Bourne, . . .	\$404 08	\$35 37	\$439 45	\$63 23	\$11 62	3.044	\$35 37
Boxborough, . .	216 68	30 73	247 41	29 95	22 55	1.363	30 73
Braintree, . . .	8 89	40 40	49 29	17 54	38 08	1.061	40 40
Brewster, . . .	2,421 61	504 25	2,925 86	79 57	64 76	7.786	389 30
Bridgewater, . .	-	107 08	107 08	314 94	78 50	1.364	68 20
Brimfield, . . .	1,010 13	175 13	1,185 26	70 38	44 16	3.966	175 13
Brockton, . . .	705 89	156 33	862 22	44 86	49 07	3.186	156 33
Brookfield, . .	474 44	201 17	675 61	72 49	88 82	2.265	113 25
Buckland, . . .	2,496 12	251 06	2,747 18	127 42	63 82	3.934	196 70
Burlington, . .	48 32	68 57	116 89	85 95	35 33	1.941	68 57
Charlemont, . .	3,294 63	126 28	3,420 91	711 21	164 21	.769	38 45
Charlton, . . .	20 98	49 28	70 26	19 41	25 76	1.913	49 28
Chatham, . . .	523 42	164 99	688 41	124 49	97 17	1.698	84 90
Chelmsford, . .	503 36	91 56	594 92	78 69	45 62	2.007	91 56
Chelsea, . . .	-	17 25	17 25	11 90	29 84	.578	17 25
Cheshire, . . .	575 56	103 86	679 42	77 21	40 02	2.595	103 86
Chester, . . .	908 53	215 26	1,123 79	214 06	75 61	2.847	142 35
Chicopee, . . .	2,895 31	387 78	3,283 09	463 71	165 79	2.339	116 95
Cohasset, . . .	246 66	22 09	268 75	28 62	9 68	2.281	22 09
Colrain, . . .	619 88	92 93	712 81	94 16	50 78	1.830	91 50
Concord, . . .	563 10	129 90	693 00	61 76	65 28	1.990	99 50
Cottage City, . .	3,447 72	138 29	3,586 01	175 70	58 35	2.370	118 50
Dalton, . . .	3,382 81	434 02	3,816 83	293 60	212 44	2.043	102 15
Dartmouth, . .	373 04	127 62	500 66	42 32	47 53	2.685	127 62
Deerfield, . . .	2,826 55	1,827 22	4,653 77	284 98	618 56	2.954	147 70
Dennis, . . .	2,590 26	498 75	3,089 01	83 67	74 73	6.674	333 70
Dighton, . . .	44 47	12 22	56 69	24 02	7 82	1.563	12 22
Douglas, . . .	108 15	49 01	157 16	118 17	31 14	1.574	49 01
Dudley, . . .	138 56	94 22	232 78	187 73	89 73	1.050	52 50
Duxbury, . . .	971 37	201 09	1,172 46	75 01	70 78	2.841	142 05
East Longmeadow, .	-	2 78	2 78	12 64	4 75	.585	2 78
Eastham, . . .	44 61	460 86	505 47	500 47	592 37	.778	38 90
Easthampton, . .	1,105 68	110 19	1,215 87	81 00	45 59	2.417	110 19
Easton, . . .	84 49	51 66	136 15	42 95	64 49	.801	40 05

Table showing the Amounts expended for Repairs, etc. — Continued.

TOWN OR CITY.	Expended to 1904.	Expended in 1904.	Total.	Total Cost per Mile per Year.	Expended per Mile in 1904.	Length under Maintenance (Miles).	Amount to be assessed on Cities or Towns.
Edgartown, . . .	\$369 72	\$122 24	\$491 96	\$59 70	\$50 60	2.416	\$120 80
Erving, . . .	901 81	221 35	1,123 16	120 77	108 29	2.044	102 20
Essex, . . .	3 04	1 66	4 70	10 68	4 76	.349	1 66
Fairhaven, . . .	559 52	108 36	667 88	50 22	74 78	1.449	72 45
Fitchburg, . . .	2,608 79	299 00	2,907 79	172 67	72 61	4.118	205 90
Foxborough, . . .	16 16	17 63	33 79	8 87	9 71	1.816	17 63
Freetown, . . .	74 80	52 01	126 81	31 47	16 29	3.193	52 01
Gardner, . . .	1,514 73	235 49	1,750 22	96 11	70 17	3.356	167 80
Gloucester, . . .	1,473 66	2,284 58	3,758 24	202 71	919 72	2.484	124 20
Goshen, . . .	2,142 28	249 82	2,392 10	142 05	131 00	1.907	95 35
Grafton, . . .	550 07	152 36	702 43	80 74	98 11	1.553	77 65
Granby, . . .	1,088 82	190 08	1,278 90	191 17	184 19	1.032	51 60
Great Barrington, . . .	5,361 00	1,156 04	6,517 04	287 86	338 92	3.411	170 55
Greenfield, . . .	307 46	75 24	382 70	73 45	43 42	1.733	75 24
Groton, . . .	131 64	26 07	157 71	57 56	18 86	1.382	26 07
Groveland, . . .	86 33	26 72	113 05	35 89	18 56	1.440	26 72
Hadley, . . .	3,354 68	332 25	3,686 93	176 16	70 81	4.692	234 60
Hamilton, . . .	358 62	230 98	589 60	94 04	160 29	1.441	72 05
Hancock, . . .	4,457 88	540 61	4,998 49	238 25	167 27	3.232	161 60
Hardwick, . . .	324 77	3 89	328 66	83 63	4 75	.819	3 89
Harvard, . . .	63 27	9 34	72 61	31 17	13 30	.702	9 34
Harwich, . . .	754 47	228 43	982 90	68 54	44 81	5.098	228 43
Hatfield, . . .	68 00	6 34	74 34	75 86	16 34	.388	6 34
Haverhill, . . .	6,322 30	231 46	6,553 76	564 49	73 53	3.148	157 40
Hingham, . . .	1,043 72	25 10	1,068 82	48 89	9 44	2.658	25 10
Hinsdale, . . .	40 03	24 42	64 45	37 25	24 01	1.017	24 42
Holbrook, . . .	530 62	95 87	626 49	60 53	54 75	1.751	87 55
Holden, . . .	1,636 75	241 71	1,878 46	66 94	64 27	3.761	188 05
Huntington, . . .	4,126 12	1,851 79	5,977 91	733 49	1,204 81	1.537	76 85
Lakeville, . . .	171 22	85 36	256 58	32 81	23 91	3.570	85 36
Lancaster, . . .	45 35	91 39	136 74	50 46	73 17	1.249	62 45
Lawrence, . . .	1,372 17	192 41	1,564 58	790 19	720 64	.267	13 35
Lee, . . .	6,570 59	980 46	7,551 05	351 70	302 33	3.243	162 15
Leicester, . . .	12,752 67	300 55	13,053 22	396 75	61 79	4.864	243 20

Table showing the Amounts expended for Repairs, etc. — Continued.

TOWN OR CITY.	Expended to 1904.	Expended in 1904.	Total.	Total Cost per Mile per Year.	Expended per Mile in 1904.	Length under Maintenance (Miles).	Amount to be assessed on Cities or Towns.
Lenox, . . .	\$1,642 80	\$109 93	\$1,752 73	\$210 92	\$48 19	2.281	\$109 93
Leominster, . .	179 82	48 09	227 91	46 42	22 08	2.178	48 09
Lexington, . .	1,071 10	251 99	1,323 09	47 07	58 73	4.291	214 55
Lincoln, . . .	678 73	181 09	859 82	53 14	87 91	2.060	103 00
Littleton, . . .	30 42	126 98	157 40	68 43	89 42	1.420	71 00
Lowell (north), .	344 05	55 00	399 05	581 45	1,091 32	2.303	115 15
Lowell (south), .	6,189 98	2,458 30	8,648 28				
Lunenburg, . .	938 91	188 07	1,126 98	109 20	69 09	2.722	136 10
Mansfield, . . .	21 24	12 42	33 66	18 10	17 25	.720	12 42
Marion, . . .	695 11	104 12	799 23	32 11	18 70	5.569	104 12
Marlborough, . .	426 18	192 12	618 30	43 82	42 42	4.529	192 12
Marshfield, . .	712 46	243 54	956 00	59 53	60 90	3.999	199 95
Mattapoisett, . .	621 03	85 83	706 86	45 72	26 77	3.206	85 83
Merrimac, . . .	526 21	134 57	660 78	73 50	63 42	2.122	106 10
Methuen, . . .	3,076 99	109 05	3,186 04	252 46	41 51	2.627	109 05
Middleborough, .	776 69	42 34	819 03	30 05	4 73	8.959	42 34
Millbury, . . .	61 48	162 49	223 97	65 68	67 82	2.396	119 80
Milton, . . .	1,860 70	25 14	1,885 84	557 94	28 86	.871	25 14
Monson, . . .	748 52	80 49	829 01	96 40	77 84	1.034	51 70
Montague, . . .	576 92	82 68	659 60	72 25	33 37	2.478	82 68
Nantucket, . . .	2,569 65	338 57	2,908 22	71 37	52 26	6.479	323 95
Natick, . . .	45 64	15 21	60 85	15 72	4 75	3.200	15 21
Needham, . . .	-	63 90	63 90	26 63	64 22	.995	49 75
New Braintree, .	46 95	1 89	48 84	41 04	4 76	.397	1 89
Newbury, . . .	187 94	199 25	387 19	47 28	74 60	2.671	133 55
Newburyport, . .	910 19	124 30	1,034 49	94 73	70 87	1.754	87 70
Newton, . . .	13 11	4 91	18 02	5 67	4 76	1.032	4 91
Norfolk, . . .	400 98	59 53	460 51	39 70	40 94	1.454	59 53
North Adams, . .	3,482 46	770 40	4,252 86	216 54	203 76	3.781	189 05
North Andover, .	425 91	152 01	577 92	124 02	80 43	1.890	94 50
Northampton, . .	1,178 26	193 20	1,371 46	118 23	114 73	1.684	84 20
North Attleborough,	1,889 11	46 39	1,935 50	68 81	12 90	3.597	46 39
Northborough, . .	342 89	110 88	453 77	32 65	35 20	3.150	110 88
Northfield, . . .	197 87	40 82	238 69	98 63	35 22	1.159	40 82

Table showing the Amounts expended for Repairs, etc. — Continued.

TOWN OR CITY.	Expended to 1904.	Expended in 1904.	Total.	Total Cost per Mile per Year.	Expended per Mile in 1904.	Length under Maintenance (Miles).	Amount to be assessed on Cities or Towns.
North Reading, .	\$193 41	\$43 72	\$237 13	\$27 51	\$18 93	2.310	\$43 72
Norton, . . .	-	864 85	864 85	1,310 38	1,204 53	.718	35 90
Norwood, . . .	772 82	96 38	869 20	59 82	47 01	2.050	96 38
Orange, . . .	1,798 04	435 97	2,234 01	107 56	92 00	4.739	236 95
Orleans, . . .	168 49	99 80	268 29	57 20	27 19	3.671	99 80
Palmer, . . .	451 23	326 42	777 65	75 35	129 89	2.513	125 65
Paxton, . . .	6,230 32	430 17	6,660 49	242 55	119 59	3.597	179 85
Phillipston, . .	1,076 99	87 28	1,164 27	166 56	72 01	1.212	60 60
Pittsfield, . . .	3,244 99	358 35	3,603 34	182 63	113 73	3.151	157 55
Plymouth, . . .	3,070 06	227 74	3,297 80	108 23	53 57	4.251	212 55
Princeton, . . .	450 22	70 33	520 55	84 78	31 55	2.229	70 33
Provincetown, . .	68 85	15 89	84 74	49 56	14 42	1.102	15 89
Quincy, . . .	87 14	5 04	92 18	28 28	4 75	1.061	5 04
Randolph, . . .	107 35	6 57	113 92	64 00	4 75	1.383	6 57
Raynham, . . .	26 47	97 99	124 46	44 77	66 34	1.477	73 85
Reading, . . .	427 26	201 09	628 35	96 67	53 82	3.736	186 80
Rehoboth, . . .	709 20	201 64	910 84	64 55	77 82	2.591	129 55
Revere (east), . .	631 86	173 14	805 00	223 61	300 37	1.248	62 40
Revere (west), . .	1,394 28	201 72	1,596 00	528 48			
Richmond, . . .	1,045 53	12 92	1,058 45	108 56	4 75	2.718	12 92
Rochester, . . .	-	36 24	36 24	7 50	6 88	5.270	36 24
Rockland, . . .	-	17 56	17 56	14 51	17 56	1.000	17 56
Rockport, . . .	35 08	27 86	62 94	103 18	86 52	.322	16 10
Russell, . . .	8,043 26	2,042 63	10,085 89	216 62	306 93	6.655	332 75
Salem, . . .	1 12	63	1 75	4 17	4 74	.133	63
Sandwich, . . .	1,288 38	164 62	1,453 00	98 09	58 33	2.822	141 10
Saugus, . . .	1,354 27	468 93	1,823 20	253 22	293 26	1.599	79 95
Scituate, . . .	833 00	305 09	1,138 09	98 03	121 26	2.516	125 80
Seekonk, . . .	71 16	13 64	84 80	19 19	8 68	1.572	13 64
Shelburne, . . .	1,981 99	2,056 05	4,038 04	226 22	952 32	2.159	107 95
Shrewsbury, . . .	5,274 60	254 08	5,528 68	214 96	65 23	3.895	194 75
Somerset, . . .	893 97	308 90	1,202 87	45 39	54 27	5.692	284 60
Southborough, . .	-	3 61	3 61	14 44	4 76	.759	3 61
Southbridge, . . .	7 86	7 60	15 46	8 49	8 36	.909	7 60

Table showing the Amounts expended for Repairs, etc. — Concluded.

TOWN OR CITY.	Expended to 1904.	Expended in 1904.	Total.	Total Cost per Mile per Year.	Expended per Mile in 1904.	Length under Maintenance (Miles).	Amount to be assessed on Cities or Towns.
South Hadley, . . .	\$2,989 51	\$539 29	\$3,528 80	\$209 92	\$105 29	5.122	\$256 10
Spencer, . . .	186 85	15 15	202 00	34 41	9 46	1.601	15 15
Sterling, . . .	629 33	126 66	755 99	96 06	97 73	1.296	64 80
Stoneham, . . .	543 40	57 10	600 50	82 71	36 09	1.582	57 10
Stoughton, . . .	40 42	123 00	163 42	86 01	61 65	1.995	99 75
Sturbridge, . . .	270 01	11 62	281 63	74 51	19 83	.586	11 62
Sudbury, . . .	502 10	138 94	641 04	38 18	27 17	5.114	138 94
Sunderland, . . .	27 96	8 34	36 30	20 17	12 23	.682	8 34
Sutton, . . .	311 60	118 05	429 65	71 97	51 78	2.280	114 00
Swampscott, . . .	1,295 39	206 32	1,501 71	191 30	138 48	1.490	74 50
Swansea, . . .	3 74	19 43	23 17	23 64	17 44	1.114	19 43
Taunton, . . .	1,209 07	53 21	1,262 28	73 09	18 14	2.933	53 21
Templeton, . . .	315 74	132 54	448 28	79 77	66 20	2.002	100 10
Tewksbury, . . .	219 46	54 72	274 18	45 77	16 16	3.447	54 72
Tisbury, . . .	1,150 77	113 82	1,264 59	70 22	58 94	1.931	96 55
Townsend, . . .	826 19	129 39	955 58	52 39	27 64	4.681	129 39
Truro, . . .	924 37	293 67	1,218 04	88 43	124 28	2.363	118 15
Tyngsborough, . . .	1,159 99	105 76	1,265 75	57 85	35 95	2.942	105 76
Uxbridge, . . .	480 61	100 33	580 94	61 15	46 11	2.176	100 33
Wales, . . .	52 34	83 49	135 83	55 90	80 28	1.040	52 00
Walpole, . . .	1,513 00	59 31	1,572 31	51 48	13 08	4.536	59 31
Ware, . . .	617 71	10 95	628 66	67 53	4 80	2.282	10 95
Wareham, . . .	470 72	110 51	581 23	44 37	43 59	2.535	110 51
Warren, . . .	1,317 02	401 86	1,718 88	94 86	121 78	3.300	165 00
Watertown, . . .	1,483 24	146 15	1,629 39	234 78	171 94	.850	42 50
Wayland, . . .	504 94	138 16	643 10	59 27	53 53	2.581	129 05
Wellesley, . . .	36 92	5 58	42 50	11 36	4 74	1.176	5 58
Wellfleet, . . .	43 01	414 17	457 18	203 19	237 62	1.743	87 15
Wenham, . . .	307 50	55 06	362 56	55 61	31 39	1.754	55 06
Westborough, . . .	224 37	11 23	235 60	51 11	15 73	.714	11 23
West Boylston, . . .	837 16	120 28	957 44	101 64	77 45	1.553	77 65
West Bridgewater, . . .	268 51	147 32	415 83	56 04	46 62	3.160	147 32
West Brookfield, . . .	202 93	72 60	275 53	41 87	43 81	1.657	72 60
Westfield, . . .	3,383 10	903 04	4,286 14	128 75	155 48	5.808	290 40

Table showing the Amounts expended for Repairs, etc. — Concluded.

TOWN OR CITY.	Expended to 1904.	Expended in 1904.	Total.	Total Cost per Mile per Year.	Expended per Mile in 1904.	Length under Maintenance (Miles).	Amount to be assessed on Cities or Towns.
Westford, . . .	\$42 78	\$284 43	\$327 21	\$57 41	\$87 62	3.246	\$162 30
Westminster, . .	1,732 57	1,940 22	3,672 79	168 09	369 78	5.247	262 35
West Newbury, .	3,277 63	270 41	3,548 04	206 88	104 24	2.594	129 70
Weston, . . .	709 29	219 04	928 33	58 94	69 49	3.152	157 60
Westport, . . .	4,747 32	241 60	4,988 92	151 59	56 79	4.254	212 70
West Springfield, .	1,014 68	102 48	1,117 16	120 12	88 88	1.153	57 65
West Tisbury, . .	903 58	178 10	1,081 68	48 97	33 30	5.348	178 10
Westwood, . . .	346 33	4 98	351 31	77 21	4 76	1.047	4 98
Weymouth, . . .	907 10	43 46	950 56	64 84	21 76	1.997	43 46
Whately, . . .	122 93	95 00	217 93	34 48	33 95	2.798	95 00
Whitman, . . .	763 53	173 45	936 98	63 83	102 21	1.697	84 85
Wilbraham, . . .	1,039 50	209 30	1,248 80	67 47	57 67	3.629	181 45
Williamsburg, . .	890 52	68 02	958 54	82 78	25 64	2.653	68 02
Williamstown, . .	1,347 96	3,212 65	4,560 61	335 83	1,646 67	1.951	97 55
Winchester, . . .	945 79	225 81	1,171 60	131 64	115 63	1.952	97 60
Windsor, . . .	185 57	62 34	247 91	83 75	63 10	.988	49 40
Woburn, . . .	363 84	196 73	560 57	100 28	96 77	2.033	101 65
Worcester, . . .	5,138 94	414 26	5,553 20	351 47	122 02	3.395	169 75
Wrentham, . . .	1,044 18	204 73	1,248 91	36 78	34 71	5.898	204 73
Yarmouth (north), .	1,792 24	233 71	2,025 95	66 32	62 89	3.716	185 80
Yarmouth (south), .	2,784 82	1,325 46	4,110 28	107 57	260 81	5.082	254 10
Totals, . . .	\$242,842 65	\$51,896 16	\$294,738 81	-	-	519.224	\$20,631 25

APPENDIX G.

STATEMENT SHOWING THE NUMBER OF PETITIONS RECEIVED
AND THE LENGTH OF WAY PETITIONED FOR, THE LAY-
OUTS MADE AND THEIR LENGTH AND DISTRIBUTION, IN THE
VARIOUS COUNTIES OF THE COMMONWEALTH.

COUNTIES.	PETITIONS RECEIVED.				PETITIONS SITUATED IN —			LAY-OUTS MADE IN —			Number of Lay-outs.
	County.	City.	Town.	Total.	Cities.	Towns.	Total.	Cities.	Towns.	Total.	
Barnstable, . . .	-	-	37	37	-	15	15	-	14	14	70
Berkshire, . . .	15	5	41	61	2	24	26	2	12	14	61
Bristol, . . .	2	6	39	47	2	17	19	1	15	16	64
Dukes, . . .	2	-	5	7	-	5	5	-	4	4	20
Essex, . . .	2	16	46	64	7	25	32	7	15	22	69
Franklin, . . .	1	-	49	50	-	16	16	-	13	13	60
Hampden, . . .	4	3	23	30	3	17	20	1	11	12	58
Hampshire, . . .	1	4	42	47	1	17	18	1	11	12	53
Middlesex, . . .	12	13	80	105	7	42	49	4	26	30	116
Nantucket, . . .	-	-	1	1	-	1	1	-	1	1	12
Norfolk, . . .	2	3	39	44	1	24	25	1	16	17	62
Plymouth, . . .	-	4	45	49	1	24	25	1	15	16	79
Suffolk, . . .	-	1	6	7	1	2	3	1	1	2	6
Worcester, . . .	-	7	117	124	2	54	56	2	39	41	172
Totals, . . .	41	62	570	673	27	283	310	21	193	214	902

NUMBER OF PETITIONS RECEIVED, ETC. — *Concluded.*

COUNTIES.	LENGTHS PETITIONED FOR.		LENGTHS LAID OUT.					
			1894-1903.		1904.		TOTAL.	
	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.
Barnstable, . . .	634,511	120.17	250,400	47.43	83,355	15.78	333,755	63.21
Berkshire, . . .	608,785	115.30	164,429	31.14	25,425	4.81	189,854	35.95
Bristol, . . .	738,500	139.87	216,984	41.10	9,955	1.88	226,939	42.99
Dukes, . . .	121,043	22.92	50,488	9.56	13,236	2.51	63,724	12.07
Essex, . . .	912,650	172.85	193,666	36.68	15,175	2.88	208,841	39.55
Franklin, . . .	540,339	102.34	140,828	26.67	15,256	2.89	156,084	29.56
Hampden, . . .	625,828	99.59	160,420	30.38	20,621	3.91	181,041	34.29
Hampshire, . . .	496,368	94.01	128,883	24.41	8,657	1.64	137,540	26.05
Middlesex, . . .	1,425,515	269.98	394,955	74.80	32,636	6.18	427,591	80.98
Nantucket, . . .	34,185	6.47	34,211	6.48	-	-	34,211	6.48
Norfolk, . . .	584,485	110.70	172,189	32.61	21,914	4.15	194,103	36.76
Plymouth, . . .	815,556	154.46	286,718	54.30	21,240	4.02	307,958	58.32
Suffolk, . . .	56,375	10.68	9,633	1.83	2,011	.38	11,644	2.21
Worcester, . . .	1,539,235	291.52	462,741	87.64	51,820	9.82	514,561	97.46
Totals, . . .	9,033,375	1,710.86	2,666,545	505.03	321,301	60.85	2,987,846	565.88

APPENDIX H.

SHOWING THE WORK DONE UNDER THE "SMALL TOWN" ACT SINCE ITS PASSAGE IN 1900.
[Section 17, chapter 47, Revised Laws.]

TOWNS.	ALLOTMENTS. ¹			LENGTHS BUILT (FEET).			Types of Roads.
	Previous to 1904.	In 1904.	Total to Dec. 31, 1904.	Previous to 1904.	In 1904.	Total to Dec. 31, 1904.	
<i>Barnstable County.</i>							
Eastham,	\$196 00	-	\$196 00	1,150	-	1,150	Graded only.
Wellfleet,	1,653 00	-	1,653 00	2,250	-	2,250	Broken stone and clay.
	\$1,849 00	-	\$1,849 00	3,400	-	3,400	
<i>Berkshire County.</i>							
Alford,	\$501 00	-	\$501 00	2,122	-	2,122	Gravel.
Egremont,	840 00	\$540 00	1,380 00	2,000	1,060	3,060	Gravel.
Florida,	1,216 00	-	1,216 00	2,500	-	2,500	Gravel.
Lanesborough,	922 00	552 00	1,474 00	2,614	2,000 ²	4,614	Gravel.
Monterey,	968 00	-	968 00	7,000	-	7,000	Gravel.
Mount Washington,	342 00	171 00 ³	513 00	-	-	-	Bridge repairs.
New Ashford,	205 00	-	205 00	1,100	-	1,100	Gravel road and culvert repairs.
New Marlborough,	2,248 00	1,024 00	3,272 00	9,700	2,900 ²	12,600	Gravel.

¹ In many instances the towns have appropriated sums in addition to the allotments of the commission, thus making it possible to improve a greater length of road. The lengths shown as built represent the total length improved with all the money available. ² Work practically but not entirely completed. ³ Work not yet begun.

WORK DONE UNDER THE "SMALL TOWN" ACT — Continued.

TOWNS.	ALLOTMENTS. ¹			LENGTHS BUILT (FEET).			Types of Roads.
	Previous to 1904.	In 1904.	Total to Dec. 31, 1904.	Previous to 1904.	In 1904.	Total to Dec. 31, 1904.	
<i>Berkshire County — Concluded.</i>							
Otis,	\$1,272 00	-	\$1,272 00	4,000	-	4,000	Gravel road and culvert repairs.
Peru,	783 00	-	783 00	4,765	-	4,765	Gravel.
Sandisfield,	1,880 00	\$652 00	2,532 00	4,640	1,650	6,290	Macadam.
Savoy,	1,748 00	-	1,748 00	4,500	-	4,500	Gravel.
Sheffield,	2,024 00	-	2,024 00	4,500	-	4,500	Grading and gravel.
Tyringham,	906 00	-	906 00 ²	1,700	-	1,700	Graded only.
Washington,	1,276 00	512 00	1,788 00	3,820	800	4,620	Grading and gravel.
West Stockbridge,	1,732 00	-	1,732 00	4,200	-	4,200	Gravel.
<i>Bristol County.</i>							
Norton,	\$18,863 00	\$3,451 00	\$22,314 00	59,161	8,410	67,571	Macadam.
<i>Essex County.</i>							
Danvers,	\$3,000 00	-	\$3,000 00	4,000	-	4,000	Gravel.
Georgetown,	800 00	-	800 00 ⁴	-	4,937 ⁵	4,937	Gravel.
Middleton,	808 00	\$408 00 ⁵	1,216 00	2,100	-	2,100	Gravel.
Salisbury,	1,948 00	-	1,948 00	1,050	1,100 ⁷	2,150 ³	Macadam.
Topsfield,	1,740 00	744 00	2,484 00	6,225	1,400	7,625	Gravel.
	\$8,296 00	\$1,152 00	\$9,448 00	13,375	7,437	20,812	

Franklin County.

Bernardston,	\$537 00	6 \$272 00	\$809 00	3,700	-	3,700	Gravel.
Conway,	2,008 00	1,244 00	3,252 00	3,500	2,300	5,800	Gravel.
Gill,	862 00	-	862 00	3,100	7 650	3,750	Gravel and bridge repairs.
Hawley,	953 00	6 444 00	1,397 00	2,000	7 1,000	3,000	Grading and gravel.
Heath,	1,031 00	-	1,031 00	2,250	-	2,250	Gravel.
Leverett,	1,056 00	8 500 00	1,556 00	2,150	-	2,150	Gravel.
Leyden,	837 00	504 00	1,341 00	4,000	9 3,000	7,000	Gravel.
Monroe,	448 00	6 504 00	952 00	-	7 2,000	2,000	Gravel.
New Salem,	924 00	8 528 00	1,452 00	1,980	-	1,980	Gravel.
Rowe,	831 00	8 432 00	1,263 00	2,750	-	2,750	Gravel.
Shutesbury,	548 00	310 00	858 00	-	10 2,900	2,900	Gravel.
Warwick,	644 00	641 00	1,288 00	-	11 2,100	2,100	Gravel.
Wendell,	1,874 00	-	1,874 00	1,200	7 900	2,100	Grading and gravel.
	\$12,553 00	\$5,382 00	\$17,935 00	26,630	14,850	41,480	
Blandford,	\$2,640 00	\$804 00	\$3,444 00	7,030	1,370	8,400	Grading and gravel.
East Longmeadow,	680 00	-	680 00	2,850	-	2,850	Gravel.
Granville,	1,800 00	8 1,000 00	2,800 00	4,000	7, 9 1,237	5,237	Grading and gravel.
Hampden,	752 00	388 00	1,140 00	5,937	12 11,725	17,662	Gravel.

¹ See note on page 83.
² Includes \$336 allotted in 1903 not yet contracted for.
³ Laid out as State highway.
⁴ The town appropriated an equal amount.
⁵ Built with 1902 and 1903 allotments.
⁶ Work not completed.
⁷ Built with 1903 allotment.
⁸ Work not yet begun.
⁹ Work practically but not entirely completed.
¹⁰ Includes 1,900 feet built with 1902 and 1903 allotments.
¹¹ Built with 1903 and 1904 allotments.
¹² Includes 8,171 feet built with 1903 allotment.

Hampden County.

WORK DONE UNDER THE "SMALL TOWN" ACT — Continued.

TOWNS.	ALLOTMENTS. ¹			LENGTHS BUILT (FEET).			Types of Roads.
	Previous to 1904.	In 1904.	Total to Dec. 31, 1904.	Previous to 1904.	In 1904.	Total to Dec. 31, 1904.	
<i>Hampden County -- Concluded.</i>							
Longmeadow,	-	² \$1,200 00	\$1,200 00	-	³ 1,425	1,425	Macadam and 128 feet concrete culvert.
Montgomery,	\$600 00	-	⁴ 600 00	650	-	650	Gravel.
Tolland,	1,161 00	-	⁵ 1,161 00	2,300	-	2,300	Graded only.
	\$7,633 00	\$3,392 00	\$11,025 00	22,767	15,757	38,524	
<i>Hampshire County.</i>							
Chesterfield,	\$1,020 00	\$520 00	\$1,540 00	750	³ 1,000	1,750	Gravel.
Cummington,	1,484 00	-	1,484 00	4,400	-	4,400	Gravel.
Greenwich,	240 00	240 00	⁶ 480 00	-	-	-	Gravel.
Middlefield,	800 00	-	⁷ 800 00	1,800	-	1,800	Gravel.
Pelham,	1,172 00	-	⁸ 1,172 00	1,650	-	1,650	Gravel.
Plainfield,	960 00	-	960 00	1,883	-	1,883	Gravel.
Prescott,	994 00	-	994 00	1,100	⁹ 430	1,530	Grading and gravel.
Westhampton,	767 00	392 00	1,159 00	1,300	1,540	2,840	Gravel.
Worthington,	2,003 00	-	2,003 00	3,600	-	3,600	Gravel.
	\$9,440 00	\$1,152 00	\$10,592 00	16,483	2,970	19,453	
<i>Middlesex County.</i>							
Ayer,	-	¹⁰ \$1,000 00	\$1,000 00	-	5,500	5,500	Gravel.
Billerica,	\$3,484 00	-	3,484 00	-	¹¹ 4,700	³ 4,700	Macadam.

Carlisle,	456 00	-	456 00	-	-	-	-	-	-
Dunstable,	325 00	-	325 00	2, 100	-	-	-	2, 100	Gravel.
Hudson,	3,000 00	-	3,000 00	10,857	-	-	-	10,857	Graded only.
Maynard,	3,288 00	1,384 00	¹⁰ 4,672 00	6,690	1,593	-	-	8,283	Grading, macadam and bridge repairs.
Sherborn,	892 00	866 00	1,758 00	-	¹³ 7,500	-	-	7,500	Gravel.
Shirley,	1,138 00	⁶ 856 00	1,994 00	3,800	-	-	-	3,800	Gravel.
Stow,	1,805 00	-	1,805 00	3,900	⁹ 1,000	-	-	4,900	Gravel.
Westford,	2,866 30	-	¹⁰ 2,366 30	5,400	-	-	-	5,400	Gravel.
<i>Norfolk County.</i>									
Avon,	\$16,754 30	\$4,106 00	\$20,860 30	32,747	20,293	-	-	53,040	-
Bellingham,	\$903 00	⁶ \$443 00	\$1,346 00	5,280	-	-	-	5,280	Gravel and macadam.
Medway,	1,412 00	-	1,412 00	2,750	-	-	-	2,750	Macadam.
Millis,	980 00	-	980 00	2,800	-	-	-	2,800	Macadam.
	488 00	520 00	1,008 00	-	^{8,14} 2,700	-	-	2,700	Gravel.
<i>Plymouth County.</i>									
Carver,	\$3,783 00	\$963 00	\$4,746 00	10,830	2,700	-	-	13,530	-
East Bridgewater,	\$2,696 00	\$1,088 00	¹⁰ \$3,784 00	8,485	3,500	-	-	11,985	Macadam.
Halifax,	1,900 00	1,200 00	¹⁰ 3,100 00	6,250	³ 3,100	-	-	9,350	Gravel and macadam.
	658 00	¹² 358 00	1,016 00	2,460	-	-	-	2,460	Macadam.

¹ See note on page 83.
² The town appropriated \$3,800.
³ Work practically but not entirely completed.
⁴ Includes \$200 allotted in 1903 not yet contracted for.
⁵ Includes \$413 allotted in 1903 not yet contracted for.
⁶ Work not completed.
⁷ Includes \$400 allotted in 1902 not yet contracted for.
⁸ Work called for by 1903 contract not completed.
⁹ Built with 1903 allotment.
¹⁰ The town appropriated an equal amount.
¹¹ Built with 1902 and 1903 allotments.
¹² Work not yet begun.
¹³ Includes 3,600 feet built with 1903 allotment.
¹⁴ Built with 1903 and 1904 allotments.

WORK DONE UNDER THE "SMALL TOWN" ACT — Concluded.

TOWNS.	ALLOTMENTS. ¹			LENGTHS BUILT (FEET).			Types of Roads.
	Previous to 1904.	In 1904.	Total to Dec. 31, 1904.	Previous to 1904.	In 1904.	Total to Dec. 31, 1904.	
<i>Plymouth County — Concluded.</i>							
Hanover,	^{2,3} \$2,368 00	-	⁴ \$2,368 00	-	-	-	Macadam.
Hanson,	2,300 00	\$1,100 00	3,400 00	4,354	3,950	8,304	Macadam.
Lakeville,	700 00	-	700 00	2,640	-	2,640	Macadam.
Norwell,	1,000 00	-	³ 1,000 00	5,280	-	5,280	Gravel.
Pembroke,	2,848 00	-	2,848 00	20,471	-	20,471	Gravel.
Plympton,	1,070 00	-	1,070 00	6,848	-	6,848	Gravel.
Rochester,	4,500 00	-	4,500 00	19,027	-	⁵ 19,027	Macadam.
<i>Worcester County.</i>							
Ashburnham,	\$1,004 00	\$1,040 00	\$2,044 00	1,160	⁶ 2,000	3,160	Gravel.
Berlin,	1,232 00	648 00	1,880 00	2,875	1,550	4,425	Gravel.
Bolton,	1,050 00	544 00	1,594 00	5,500	1,425	6,925	Gravel.
Boylston,	520 00	-	520 00	-	⁷ 2,100	2,100	Gravel.
Dana,	769 00	-	769 00	2,900	-	2,900	Gravel.
Hubbardston,	720 00	720 00	1,440 00	-	⁸ 1,700	1,700	Gravel.

Mendon,	1,296 00	620 00	1,916 00	3,500	7 3,800	7,300	Gravel.
Oakham,	896 00	456 00	1,352 00	3,300	1,480	4,780	Gravel.
Petersham,	1,940 00	1,000 00	2,940 00	-	6, 9 3,825	3,825	Gravel.
Rutland,	1,804 00	-	1,804 00	1,131	7 1,450	2,581	Gravel and macadam.
Winchendon,	1,000 00	3,000 00	3 4,000 00	2,300	6 6,910	9,210	Gravel.
	\$12,231 00	\$8,028 00	\$20,259 00	22,666	26,240	48,906	

¹ See note on page 83.
² Work not completed.
³ The town appropriated an equal amount.
⁴ Includes \$319.18 not yet contracted for.
⁵ Laid out as State highway.
⁶ Work practically but not entirely completed.
⁷ Built with 1903 allotment.
⁸ Built with 1903 and 1904 allotments.
⁹ Built with 1902, 1903 and 1904 allotments.

SUMMARY.

COUNTIES.	ALLOTMENTS.			LENGTHS BUILT (FEET).		
	Previous to 1904.	In 1904.	Total to Dec. 31, 1904.	Previous to 1904.	In 1904.	Total to Dec. 31, 1904.
Barnstable,	\$1,849 00	-	\$1,849 00	3,400	-	3,400
Berkshire,	18,863 00	\$3,451 00	22,314 00	59,161	8,410	67,571
Bristol,	2,200 00	-	2,200 00	3,750	-	3,750
Essex,	8,296 00	1,152 00	9,448 00	13,375	7,437	20,812
Franklin,	12,553 00	5,382 00	17,935 00	26,630	14,850	41,480
Hampden,	7,633 00	3,392 00	11,025 00	22,767	15,757	38,524
Hampshire,	9,440 00	1,152 00	10,592 00	16,483	2,970	19,453
Middlesex,	16,754 30	4,106 00	20,860 30	32,747	20,293	53,040
Norfolk,	3,783 00	963 00	4,746 00	10,830	2,700	13,530
Plymouth,	20,040 00	3,746 00	23,786 00	75,815	10,550	86,365
Worcester,	12,231 00	8,028 00	20,259 00	22,666	26,240	48,906
Totals,	\$113,642 30	\$31,372 00	\$145,014 30	287,624	109,207	396,831

APPENDIX I.

REPORT OF EDWARD W. BREED ON TREE PLANTING.

CLINTON, MASS., NOV. 28, 1904.

To the Massachusetts Highway Commission.

GENTLEMEN:— After receiving from you a statement as to the number of trees that could be planted by the commission during the year 1904, a proposal was prepared, calling for bids for the furnishing of 4,000 trees. The contract was awarded to Ellwanger & Barry of Rochester, N. Y. The trees were to be shipped to South Lancaster, to a plot of ground kindly furnished the commission by Mr. Parker, and from this point they were reshipped to their desired destination, unless held here for fall shipment.

In company with members of your commission and division engineers, I visited such sections of the State roads as you had selected to be planted with trees, and decided what varieties to plant. Later, in company with the division engineers or their assistants, we drove stakes where each tree should be planted, marking the kind and number of tree. The ground was then prepared by the road superintendent of each division in accordance with directions given, varying as to natural conditions and requirements of each kind.

During the spring 1,425 trees were planted in the following sections:—

Fitchburg and Westminster,	395
Leicester and Spencer,	583
Yarmouth and Dennis,	447

Attention was given to every detail in the planting, which, with the very favorable weather that followed, produced very satisfactory results. In the above-mentioned planting the loss thus far has been less than one per cent.

When the trees were shipped, any tree that was not well supplied with roots was kept back to grow in the nursery during the summer, where, under more favorable circumstances, it would be less likely to die.

During the summer preparations for the fall planting were made by staking out, preparing of the ground, etc.

Upon digging the trees that had been growing in the nursery during the summer, it was wonderful to notice the large number of fibrous roots that had developed, ensuring satisfactory results in the future.

During the fall season 2,219 trees have been planted in the following sections : —

Townsend,	.	.	.	.	.	.	.	.	.	.	348
Fitchburg and Ashby,	.	.	.	.	.	.	.	.	.	.	601
Andover and North Reading,	}	.	.	.	.	.	.	.	.	.	673
Reading and Stoneham,		.	.	.	.	.	.	.	.	.
Westwood, Norwood and Walpole,	.	.	.	.	.	.	.	.	.	.	256
Lee and Lenox,	.	.	.	.	.	.	.	.	.	.	123
Natick and Wellesley,	.	.	.	.	.	.	.	.	.	.	218

The trees have all received a mulching of strawy manure, and in a few instances, where they are exposed to high winds, they have been staked.

The ground at the nursery has been plowed and dressed with wood ashes.

There remain on hand 159 trees.

The table on the following page shows the varieties and distribution of the trees planted this year.

I wish to express to the commission my hearty appreciation of the very courteous attention that I have received from them, the division engineers and their assistants, all of whom seem interested in the work, which I trust will prove a lasting benefit to our Commonwealth.

Respectfully submitted,

E. W. BREED.

SHOWING THE VARIETIES AND DISTRIBUTION OF SHADE TREES PLANTED IN 1904.

CITY OR TOWN.	Sugar Maple.	Norway Maple.	White Maple.	Elm.	White Pine.	Laurel-leaf Willow.	Golden Willow.	Red Oak.	Scarlet Oak.	White Oak.	Pin Oak.	White Poplar.	Carolina Poplar.	Lombardy Poplar.	Total.
Fitchburg and Westminster,	112	32	2	108	-	-	94	23	-	24	-	-	-	-	395
Leicester and Spencer, .	117	261	122	11	-	-	22	50	-	-	-	-	-	-	583
Yarmouth and Dennis, .	-	-	-	330	7	-	-	-	-	-	-	110	-	-	447
Townsend,	53	-	25	91	86	-	-	24	8	22	-	23	-	16	348
Fitchburg and Ashby,	184	121	84	77	-	-	42	39	23	31	-	-	-	-	601
Andover and North Reading, } Reading and Stoneham, }	340	53	15	71	-	-	57	52	-	5	5	6	41	28	673
Westwood, Norwood and Walpole,	55	-	-	125	-	-	4	-	-	-	71	-	1	-	256
Lee and Lenox,	18	30	-	40	-	-	27	1	-	7	-	-	-	-	123
Natick and Wellesley,	91	-	3	56	-	18	-	-	-	-	7	23	14	6	218
On hand in nursery,	5	7	-	70	-	-	-	6	24	47	-	-	-	-	159
Died,	5	1	1	21	-	-	4	5	-	64	-	3	-	-	104
Total,	980	505	252	1,000	93	18	250	200	55	200	83	165	56	50	3,907

APPENDIX J.

APPROPRIATIONS.

Appropriations for the Construction and Repair of State Highways.

1894, chapter 497, section 8,	.	.	.	.	.	.	.	\$300,000 00
1895, chapter 347, section 3,	.	.	.	.	.	.	.	400,000 00
1896, chapter 481, section 3,	.	.	.	.	.	.	.	600,000 00
1897, chapter 340, section 1,	.	.	.	.	.	.	.	800,000 00
1898, chapter 539, section 1,	.	.	.	.	.	.	.	400,000 00
1899, chapter 396, section 1,	.	.	.	.	.	.	.	500,000 00
1900, chapter 442, section 1,	.	.	.	.	.	.	.	500,000 00
1901, chapter 269, section 1,	.	.	.	.	.	.	.	500,000 00
1902, chapter 246, section 1,	.	.	.	.	.	.	.	500,000 00
1903, chapter 280, section 1,	.	.	.	.	.	.	.	¹ 2,250,000 00
Total,	.	.	.	.	.	.	.	\$6,750,000 00

Appropriations for the Salaries and Expenses of the Commission, paid from the Treasury of the Commonwealth.

1898, chapter 497, section 1,	.	.	.	.	.	.	.	\$14,300 00
1899, chapter 367, section 1,	.	.	.	.	.	.	.	28,500 00
1900, chapter 141, section 1,	.	.	.	.	.	.	.	28,500 00
1901, chapter 451, section 1,	.	.	.	.	.	.	.	33,750 00
1902, chapter 67, section 1,	.	.	.	.	.	.	.	33,750 00
1903, chapter 14, section 1,	.	.	.	.	.	.	.	33,950 00
1904, chapter 19, section 1,	.	.	.	.	.	.	.	² 38,950 00

Appropriations for Maintenance, paid from the Treasury of the Commonwealth.

1903, chapter 280, section 2,	.	.	.	.	.	.	.	\$40,000 00
1904, chapter 316, section 1,	.	.	.	.	.	.	.	50,000 00

¹ To cover a period of five years.

² Includes expense of automobile registration.

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